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IMPACT OF ASSET QUALITY ON SOLVENCY & LIQUIDITY OF BANKS: A COMPARATIVE STUDY OF PUBLIC SECTOR AND PRIVATE SECTOR BANKS IN INDIA

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ABSTRACT
Banks are the custodians of money entrusted to them by their depositors which is one of the main sources of funds in their operations. These funds are deployed in creating banking assets in the form of lending and investments which gives them a return to not only meet the cost of deposits and other source of funds, but to meet the operating costs and also maximising the return to the shareholders. In the normal course of their business operations, banks face the risk of non-servicing and non-return of the funds lent to their borrowers which is one of the main business risks known as the 'credit risk'. Though the credit risk has always been there in the banking system in view of the very nature of the business, this has received added attention in the recent past especially after the global financial crisis of 2007-08. The slow down in the industrial and commercial activities caused by the crisis has severely impacted the servicing of debts by the borrowers. This has led to the deterioration in the quality of assets of banks thus affecting their financial performance. The current study spanning a period of ten years from FY 2005 to 2014 is intended to analyse the impact of the Asset Quality on the two macro financial parameters of Solvency and Liquidity of commercial banks in India. The results of the study show that the solvency of New Private Sector Banks and Old Private Sector Banks is higher than the Public Sector Banks. On the other hand, the Liquidity of New Private Sector Banks was significantly higher than the Old Private Sector Banks and the Public Sector Banks.

KEYWORDS
Asset Quality, Liquidity, Non-performing Assets, Solvency.

INTRODUCTION
Banking as an essential economic activity originated centuries ago in several countries. The origin of Banking in India can be traced back to the early ages of civilisation. 'Evidence regarding the existence of money-lending operations in India is found in the literature of Vedic times, i.e., 2000 to 1400 BC. The literature of Buddhist period, supply evidence of the existence of sreshtis or bankers. From the laws of Manu, it appears that money-lending and allied problems had assumed considerable importance in ancient India'1

Modern banking in an organised way is said to have commenced during the period of 16th and 19th centuries with the traditional banking functions of accepting deposits, money lending, money changing and even transferring of funds. Though banking has evolved from a simple way of dealing with deposits and lending to the modern day of using technology to deliver the same services, the basic function of 'intermediation' has never changed. While the depositors' motive of saving is to meet their future needs by sacrificing their present consumption, the borrowers approach banks to satisfy their present funding needs. The intermediation process generates a surplus and helps in sustaining and remaining in the business long term. Unlike other intermediaries, the banks are unique and the reasons are not difficult to find. Banks are perceived to be almost risk free when the saving community entrust their money to them.

While accepting of deposits from the general public by banks is fraught with little risk, there is a huge responsibility assumed by the banks in deployment of these resources. Banks are considered trustees of depositors' money and it is expected that they would take utmost care in their lending and investment activities. Banks accept savings from the general public without any choice, but they need to be very choosy to whom they lend and invest. Despite of their best efforts, banks often find that some of their loans and investments turn sour. It is a common phenomenon that not every borrower will repay the money borrowed. It means that some loans that a bank makes will not be recovered and the non-recovered principal will be a charge against the profits earned apart from losing an opportunity to earn a return on the loans which becomes non-recoverable. This is an inherent risk in banking and cannot be avoided totally in spite of all good strategies and efficient risk management systems adopted by banks.

The present study is aimed at studying what the asset quality means in banks, consequences of poor asset quality and impact of asset quality on their financial performance. These aspects will be studied with reference to the SBI & Associate banks, Public Sector Banks, Old Private Sector Banks and New Private Sector Banks operating in India.

REVIEW OF LITERATURE
In the past, several studies have been carried out with reference to the asset quality and how it is impacted by macro economic factors and its impact on the performance of the banks. Some of the relevant studies related to the subject of discussion are stated herein.

Lokare Shashidhar M. (2014) in an RBI published working paper explores the macro-financial linkages and micro level sources underlying the asset quality deterioration. The study shows that external macroeconomic situation post-crisis, high inflation and reduced asset prices have eroded the debt servicing ability of borrowers contributed to the asset quality problems. The study also went into the sectoral analysis which revealed rising incidence of loan defaults in infrastructure, retail, SSIs and agriculture across bank groups. In a similar study by Latif Abdul Alhassan et al., (2014) examined both bank level and macroeconomic determinants of bank assets quality in an emerging Ghanaian banking with high levels of non-performing loans. The study covering a six year period of 2005 – 2010 indicates that significant portions of banking industry assets are locked up in non-performing loans. They find evidence of persistence positive effect on non-performing loans from market concentration, bank size and income diversification, while bank interest spread and credit growth impact negatively on the performance of bank loan portfolio. The study also supports the view that the macroeconomic environment is an important factor in explaining non-performing loans and specifically show inflation rate and exchange rate depreciation negatively impacts the assets quality of banking industry.

In a study by Abata, et al, (2014) of commercial banks in Nigeria shows that there is a significant relationship between bank performance (in terms of profitability) and asset quality (in terms of loan performance). Loans and advances, loan loss provisions and non performing loans are major variables in determining asset quality of a bank. The study reveals that where a bank does not effectively manage its risk, its profit will be unstable. Banks become more concerned because loans are usually among the riskiest of all assets and therefore may threaten their liquidity position and lead to distress. Better credit risk management results in better bank performance

Bock De Reinnout, et al, an IMF working paper (2012) on 'Bank Asset Quality in Emerging Markets: Determinants and Spillovers' study the vulnerability of emerging markets and their banks to aggregate shocks. They find significant links between banks' asset quality, credit and macroeconomic aggregates. Lower economic growth, exchange rate depreciation, weaker terms of trade and a fall in debt-creating capital inflows reduce credit growth while loan quality deteriorates.
Ram Mohan and Subhash Ray (2004), make a comparison of performance among three categories of banks – public (PSBs), private and foreign using inputs and outputs and comparing revenue maximisation efficiency of banks during 1992-2000. The study used the interest spread and interest spread net of provisions (both as proportions of total assets) as measures for revenue and intermediation cost to total assets ratio as costs. For the purpose of computing revenue maximisation efficiency, loans, investments and other income are treated as outputs and deposits and operating costs as inputs. The results of the study show that PSBs are significantly better than private sector banks on revenue maximisation efficiency but there is no difference between PSBs and foreign banks.
In a study of determinants of bank asset quality and profitability by Swamy (2013) reveals that favourable macroeconomic conditions facilitate in NPA management leading to better asset quality. As the banks grow in size, they tend to control the NPA owing to efficiency in their management, meaning larger banks exhibit better credit risk management with lower NPA levels. Priority Sector lending is found to be not much significant in contributing to NPAs in contrast to the perception otherwise. This study shows that private banks and foreign banks are better placed in terms of their efficiencies in credit management in containing the NPAs.
Das & Ghosh (2007) in their study reveal that at the macro level, GDP growth and at the bank level, real loan growth, operating expenses and bank size play an important role in influencing problem loans. Also observed is a rapid expansion of lending by banks often leads to poor loan quality, albeit with a lag, because the growth of lending may outstrip the lender's capacity to appraise and monitor its borrowers, bigger banks tends to have higher problem loans and from the supervisory standpoint, excessive rapid loan growth, as well as sharp declines in bank capital levels which can be used as pointers to the deterioration in the financial health of banks and early warning signals of future problem loans.
In a study of NPA and select key financial heads by Bamoriya and Jain (2013) shows some interesting results. A multiple regression equation taking NPA as dependent variable and Total Deposits, Total Advances, Deposits and Net Interest Income as independent variable was formed to examine the total effect of independent variables on NPA. Among the select Key Financial Heads, Total Assets had significant negative impact on NPAs implying that with increase in Total Assets, NPAs decreases. Total Advances and Net Interest Income had no significant impact on NPAs as while the Total Deposits had significant positive impact on NPAs meaning that with increase in Total Deposits, NPAs also increases.
The current study is aimed at analysing the impact of the asset quality on two important macro indicators i.e. the solvency and liquidity of banks in India by way a comparative analysis of public sector banks and private sector banks covering a period of ten years from 2005 to 2014.

STATEMENT OF THE PROBLEM
Asset quality has received added focus in the recent times especially after the financial crisis in the USA in 2007-08 which not only affected the financial system in the US, but elsewhere around the globe. It is not difficult to comprehend this as the financial systems of different countries are well connected by movement of funds for investment. The impact of the slow down has affected various countries and their local manufacturing, commercial, services and export-import activities which had their spill over effect on the banking system. As the banks are the main source of funding for all kinds of economic activities especially in developing countries like India, the impact of the slow down has not only affected fresh off take of funds, but the quality of existing loans and advances have also been adversely affected. Given the background of the slow down and the damage it caused to the financial system in general and the banking system in particular, the Basel Committee for Banking Supervision has come out with Basel III norms which have more stringent risk management measure to be adopted by the banks. This has resulted in additional capital requirements to be met by banks in the next couple of years. Therefore, in the current dispensation, banks not only need to ensure that there is no further slippage in the quality of existing loan portfolio, but also scout for only high quality assets. This situation has prompted a number of studies being carried out to analyse the reasons for the poor asset quality, ways and means to improve the quality of assets, impact on the financial performance of banks, etc.,
Some of the recent statistics relating to the non-performing assets of Indian banks reveal the alarming situation calling for a close attention by the government and the RBI. The gross NPA of 39 listed banks rose 26.87% to Rs. 3.40 trillion in the quarter ended September 2015 from Rs. 2.68 trillion for the same quarter the previous year. According to a report by CARE Ratings, Gross NPA ratio of banks in India rose to 4.9 % in the September 2015 quarter from 4.2% in the same period the previous year. The average Gross NPA in the public sector banks stood at 6% at the end of September 2015. According to a rough estimate, public sector banks would need an additional capital of Rs. 2.40 Lac Crores by 2018 to meet the Basel III capital adequacy norms. Given that the government owns > 51% equity stake in all the public sector banks, the government need to infuse an amount of Rs. 1.20 – 1.50 Lac Crores. Similarly, the private sector banks need to tap the capital market to meet their incremental capital requirement in addition to their retained earnings in the next few years.

ASSET QUALITY
In financial and banking parlance, the resources of banks are termed as 'Liabilities' since they are the sources of funds in their operations and the lending and investments are termed as 'Assets'. Asset quality and loan quality are two terms with primarily the same meaning. Safety of depositors' money is a fundamental requirement, but at the same time ensuring maximum profitability and value to the shareholders becomes a major challenge for the banking system. Asset quality shows how good is the loans portfolio of a bank in terms of the credit risk. In other words, asset quality refers to the credit quality of a bank's interest bearing loans portfolio. It is reflected in the performance of assets as per the terms set out for making available the credit facility to the borrowers. The portion of the assets portfolio which becomes bad is termed as 'non-performing 'assets. The asset quality can be measured by stating what portion of the loans portfolio is absolutely good, meaning that they are performing as per the agreed terms in servicing of the interest and the principal. The other way of saying is what portion of the loan portfolio is not performing as per the agreed terms between the bank and its client more easily identified as 'non-performing' assets.

IMPORTANCE OF ASSET QUALITY
Quality of assets is of paramount importance and how well the banks manage to remain with high quality of assets (means a lower level of poor quality assets) dictates the standing of the bank. One of the major parameters of measuring banks' performance is the quality of assets. Quality of banks' assets is both important and also difficult to analyse. It is important because, asset quality has a direct relationship to income, cash flow, solvency and liquidity. It also has an impact on the bank's reputation and investor behaviour reflected in the stock price. It is difficult because of the different approaches used by the analysts to determine the quality of assets and the risks associated with it.
The quality of assets is of a major concern not only to the banks concerned, but to the central banking authorities as well. Failure of a bank is most often caused by a major part of its loan portfolio becoming bad contributing to multiple organ failure in the bank. It also creates ripples in the financial system of the country. 'The ability to maintain prudent standards and effectively control credit risk is one of the most fundamental responsibilities of bank managers and an ability to effectively perform this function is both damning in itself and implies deficiencies by management in other areas. Accordingly, because it has a direct relationship to solvency, income, cash flow, and liquidity, as well as management's competence, a bank's asset quality is arguably the most important criteria in evaluating its financial condition'2 Therefore, the importance of asset quality can not be overemphasised. Good quality of a bank's assets helps them to grow without creating any problems for the stakeholders. By the same logic, poor quality of assets impacts profit and growth. In their study, 'Problem Loan and Cost Efficiency in commercial banks', Allen N. Berger and Robert De Young (1997) conclude that increases in non-performing loans tend to be followed by decreases in efficiency, suggesting that high levels of problem loans cause banks to increase spending on monitoring, working out, and/or selling off the loans which will increase the cost of operations.
One of recent bank failures in India in 2005 of Global Trust Bank, a new generation private sector bank is attributed to bulk of its credit portfolio becoming non-performing because of excessive exposure to sensitive sector like the stock market operations. With a view to protect the depositors and avoid liquidation of the bank which would have sent wrong signals about the banking and financial sector of the country, the RBI allowed the failed bank to be taken over by the Oriental Bank of Commerce, a public sector bank.

A good credit risk management of the bank is not merely a reflection on the quality of assets, but of the bank management as well. It is said that there is one big difference between selling a credit product and other products. The sale of credit product is not final as the banks are expected to get it back with interest. A good credit portfolio management with appropriate exposures by choosing the right kind of borrowers and an on-going mechanism of follow-up determines the efficiency of the credit risk management. Poor quality of assets in the books of the bank demonstrates a bad credit risk management leading to loss of reputation among the depositors resulting in liquidity and solvency risk for the bank.

HYPOTHESIS

ASSET QUALITY IMPACTS SOLVENCY AND LIQUIDITY OF BANKS

Good asset quality is an indicator of a healthy bank. Therefore, in the current context, measuring a bank's performance with asset quality as a basis is of utmost importance. As with any kind of financial analysis, banks performance is measured not only against its own past performance, but against its peers as well. In India, banks operate under different ownership patterns and majority of them are grouped as public sector, private sector and foreign banks. The public sector and private sector banks take a major share of banking business and play an important role in the country. Therefore the present study attempts to study the impact of assets quality on various parameters. The hypothesis will test the impact of asset quality on the solvency and liquidity of banks by a comparative analysis of public sector and private sector banks for a period of 10 years between 2005 and 2010.

RESEARCH METHODOLOGY

Considering the objective & the hypothesis of this study which attempts to analyse banks performance at the balance sheet level, the data required is sourced from the secondary data. The required data has been obtained from the statistical reports of the Reserve Bank of India and the financial statements of the banks concerned. The study covered a period of ten years from the FY 2005 to FY 2014. For the purpose of the study, banks have been grouped into four categories : Public Sector Banks: State Bank of India & associate banks (SBI Group), Other Public Banks (excluding SBI Group) and Private Sector Banks: Old Private Banks and New Private Banks.

TABLE 1: LIST OF BANKS COVERED IN THE STUDY

Category		
Public Sector Banks	**SBI Group**	**Other Public Banks**
	State Bank of India	Allahabad Bank
	State Bank of Bikaner & Jaipur	Andhra Bank
	State Bank of Hyderabad	Bank of Baroda
	State Bank of Mysore	Band of Maharashtra
	State Bank of Patiala	Bank of India
	State Bank of Travancore	Canara Bank
		Central Bank of India
		Corporation Bank
		Dena Bank
		IDBI Bank
		Indian Bank
		Indian Overseas Bank
		Oriental Bank of Commerce
		Punjab & Sind Bank
		Punjab National Bank
		Syndicate Bank
		UCO Bank
		Union Bank of India
		United Bank of India
		Vijaya Bank
Private Sector	**Old Private Banks**	**New Private Banks**
	Federal Bank	AXIS Bank
	J&K Bank	HDFC Bank
	Karnataka Bank	ICICI Bank
	Karur Vysya Bank	IndusInd Bank
	South Indian Bank	Kotak Mahindra Bank
	Tamilnad Mercantile Bank	Yes Bank

The financial performance of these banks has been assessed based on the impact of asset quality on two vital macro measures i.e. Solvency and Liquidity. These two macro measures are very important and the health of banks can be gauged by how well the banks are managed. The importance of liquidity and solvency in banks can be summed up in the words of Godhart (2008) as 'Liquidity and solvency are the heavenly twins of banking, frequently indistinguishable. An illiquid bank can rapidly become insolvent and an insolvent bank illiquid'.

Solvency is commonly defined as 'the ability of a financial institution to meet its short, medium and long term financial obligations'. It also refers to the ability of a financial institution to meet its obligations in the event of liquidation. A bank is considered solvent if their assets is equal to or exceed its liabilities.

As per the Basel Committee on Banking Supervision, liquidity is the ability to fund increases in assets and meet obligations as they come without incurring unacceptable losses. Liquidity is the combination of the mismatch between the maturity of a bank's assets and its liabilities, the reliability of its funding and its capacity to meet cash outflows from liquid resources.

The study has considered the Solvency as the sum of the three indices: (1) *Quality of Assets* represented by the ratio of Gross NPA, (2) Ratio of Capital to Risk Weighted Assets used as proxy for *Capital*, and (3) Profitability represented by the ratio of Net Income to Tangible Assets. Liquidity is the sum of two indices (1) Funding Liquidity and Market Liquidity. Liquid Assets to Tangible Assets ratio will determine the *Funding Liquidity structure* and the ability to borrow in the market represented by Market borrowing to Tangible Banking Assets will determine the *Market Liquidity.*

THE RESULTS & DISCUSSION

From Table 2, it is evident that the Solvency level of New Private Banks (4.195±.706) and Old Private Banks (4.004±.568) was higher than Other Public Banks (3.61±.331); and SBI Group (3.62±.275). One way ANOVA analysis shows that this difference is significant at $P<0.05$ ($F=3.75$; $p = 0.000$).

The Liquidity level of New Private Banks (8.8534±1.507) was significantly higher than the Old Private Banks (6.1996±.787) and the Other Public Banks (6.8532±1.52); SBI Group (6.42±.701). Further, New Private Banks were found to have better liquidity in comparison with the Old Private Banks and Public Banks (with and without SBI) ($F = 51.47$; $p = 0.000$).

TABLE 2: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
New Private Bank Solvency	4.1945	.70585	60
New Private Banks Liquidity	8.8534	1.50718	60
Old Private Banks Solvency	4.0040	.56768	60
Old Private Banks Liquidity	6.1996	.78719	60
Other Public Banks Solvency	3.6092	.33065	190
Other Public Banks Liquidity	6.8532	1.52076	190
SBI Group Solvency	3.6209	.27520	60
SBI Group Liquidity	6.4222	.70110	60

Source: own calculations

Table 3 depicts the intercorrelation among the Asset Quality, Solvency and Liquidity. In the case of New Private Banks, Old Private Banks, and Other Public Banks, a weak positive correlation was found between the three variables under study and it was significant at p = 0.01. The positive relationship between Asset Quality, Solvency and Liquidity indicates that if Asset Quality is controlled, the Solvency and Liquidity of the banks can improve.

In contrast, a weak negative correlation was found between Solvency and Liquidity of SBI Group. However, this effect was found to be not significant. Though there is a negative relationship between Solvency and Liquidity, the impact may not be great as the relationship is not significant.

TABLE 3: CORRELATION MATRIX

	Asset Quality	Solvency	Liquidity
New Private Banks			
Asset Quality	1		
Solvency	.354**	1	
Liquidity	.391**	.429**	1
Old Private Banks			
Asset Quality	1		
Solvency	.338**	1	
Liquidity	.480**	.093	1
Other Public Banks			
Asset Quality	1		
Solvency	.256**	1	
Liquidity	.126	.225**	1
SBI Group			
Asset Quality	1		
Solvency	.300*	1	
Liquidity	.195	-.026	1

Source: own calculations

*. Correlation is significant at the 0.05 level (2-tailed).

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

Multivariate analysis was conducted to find the impact of Asset Quality on Solvency and Liquidity using the software Statistical Packages for Social Scientist (SPSS version 21). Multivariate data analysis techniques are generally utilized to analyse the simultaneous relationship between three or more dependent variables that are affected by one independent variable. Multivariate Analysis can be defined as "the application of methods that deal with reasonably large numbers of variables made on each object in one or more samples simultaneously" Bansal & Khosla, (2015). In the present study, asset quality represented by Gross NPA to Gross advances has been taken as the independent variable to show if it has any impact on the Solvency and Liquidity of the banks.

From Table 4.3, it can be observed that there was a statistically significant impact of Asset quality on Solvency and Liquidity in all the types of banks (New Private Banks, F = 6.916; Old Private Banks, F = 13.22; Other Public Banks, F = 7.108; SBI Group, F = 4.296) at p < 0.01.

TABLE 4: MULTIVARIATE ANALYSIS

	F	Sig.
New Private Bank Asset Quality	6.916	.002
Old Private Bank Asset Quality	13.220	.000
Public Bank Asset Quality	7.108	.001
Public SBI Bank Asset Quality	4.296	.018

Source: own calculations

To determine how the Solvency and Liquidity differ for the Asset Quality, the Tests of Between-Subjects Effects was analysed. From Table 5, it is evident that Asset quality has a statistically significant effect on both Solvency (F = 8.319, p=.005) and Liquidity of the New Private Banks (Solvency F = 8.319, p=.005; Liquidity F = 10.442, p = .002) and Old Private Banks (Solvency F = 7.476, p=.008; Liquidity F = 17.325, p = .000).

In contrast, Other Public Banks suggest that Asset quality has an impact on Solvency (F = 13.216), which was highly significant (p=.000), but it did not have a significant effect on Liquidity (F=3.045, p =.083). Similarly, it was true for the SBI & Associates too where only Solvency was affected by Asset Quality and not the Liquidity.

TABLE 5: TESTS OF BETWEEN-SUBJECTS EFFECTS

	Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Model 1	New Private Bank Asset Quality	Solvency	3.687	1	3.687	8.319	.005	.125
		Liquidity	20.447	1	20.447	10.442	.002	.153
Model 2	Old Private Bank Asset Quality	Solvency	2.171	1	2.171	7.476	.008	.114
		Liquidity	8.409	1	8.409	17.325	.000	.230
Model 3	Other Public Banks Asset Quality	Solvency	1.357	1	1.357	13.216	.000	.066
		Liquidity	6.966	1	6.966	3.045	.083	.016
Model 4	SBI & Associates Asset Quality	Solvency	.401	1	.401	5.725	.020	.090
		Liquidity	1.101	1	1.101	2.290	.136	.038

Source: own calculations

CONCLUSIONS

The earlier studies were mostly focused on the macro economic determinants, causes for the problem loans, and comparative analysis of financial performance under different ownership groupings and similar. The current study is focused on the two major indices which has influence on the overall performance of the banks.

The study suggests that there is a definite and positive impact of asset quality on the solvency and liquidity on banks of all groupings, but with varying degree. New Private Banks and Old Private Banks were found to be in a better solvency position than the Public Banks – both SBI Group and Other Public Banks. This is an indication of higher levels of non-performing assets during the period of study among the both groups of Public Banks and its impact on the solvency of these banks. In fact, the situation seems to have further worsened looking at the growth in the non-performing assets during the FY 2014-15. As per the Financial Stability Report of RBI of December 2015, public banks recorded highest level of stressed assets at 14.1% of advances at the end of September 2015, while it is 4.6% in the case of private banks. The situation can turn out to be alarming if the stressed assets eventually slip into non-performing assets. Improvement can be achieved by a fresh infusion of equity, retaining major portion of earnings and quicker recovery of the non-performing loans by whatever means it takes either through legal action or by way of settlement with the defaulters. Legal action may not yield the desired results soon, but selling of the non-performing assets to Asset Reconstruction Companies could be an option, but that will happen with considerable amount of write off which may worsen the situation.

The multivariate analyses suggest that the liquidity position of the Public Banks was not significantly affected by the asset quality. This suggests that in spite of comparatively higher level of non-performing assets, public banks were able to manage their liquidity well. This demonstrates their ability to meet the funding requirements from their own liquid assets as well as raising the required funds from the market without much difficulty. It is possibly because of the perception of lower level of counter party risks when they had to borrow from the market to meet their liquidity needs. However if the asset quality is not improved soon, some of the banks who have relatively higher levels of NPA may suffer from serious liquidity issues resulting in higher cost of borrowing from the market. It may also lead to loss of confidence of depositors which will further aggravate the liquidity problems.

The study covered a period of ten years during which very scattered information has been available about the restructured loans. One of the major concerns in recent times is that even the restructured loans are eventually turning out to be non-performing. A further research in this area especially understanding the causes and how to reduce the instances of restructured loans becoming non-performing assets will help the banking industry.

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AN ANALYSIS OF ATTITUDES OF EMPLOYEES TOWARDS OVERTIME PRACTICES IN PHARMACEUTICAL INDUSTRY

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ABSTRACT

The main aim of the present study is to find out the Overtime practices, its influencing factors and the attitude of the employees towards overtime. The paper is based on survey of the employees of Pharmaceutical Industry in Ranga Reddy district of Telangana State in India. A sample of 110 respondents was selected using convenience sampling method. Data was collected using self-designed questionnaire administered at the work place. Data analysis is based on the use of percentages to study the attitudes towards overtime practices. Results indicate that the overtime in the organizations is not made mandatory and all the workmen are intentionally doing overtime. The factors like getting double the gross pay and the food allowances are the causes for their willingness to do overtime. The productivity during overtime (or) the work beyond normal hours is not in appreciable levels; because of the extension of their work the performance is low relative to the normal hours work. The workmen feel no stress to undergo overtime because of their willingness in doing it and also, the satisfaction towards overtime is also satisfactory. Future studies should examine the measures to control overtime practices in Industry as to improve productivity in the regular time.

KEYWORDS

overtime, internal factors, external factors, attitude, satisfaction.

INTRODUCTION

Overtime is the amount of time someone works beyond normal working hours. Normal hours may be determined in several ways: by custom or by practices of a given trade or profession, by legislation, by agreement between employers and workers or their representatives. Overtime has to be paid in India at double the rate of wages including dearness allowance and the value of food concession, according to the Factories Act, 1948. This act as stated earlier also lays down that a worker is entitled to overtime when he works for more than 9 hours on any day or more than 48 hours in a week.

Occasional overtime is a healthy sign since it indicates that the firm's optimum capacity being fully utilized. But persistent overtime is rather a bad sign because it may include either: (a) that the firm needs larger capacity in men and machines or (b) that men have got into the habit of postponing their ordinary work towards the evening so that they can earn extra money in the form of overtime wages.

Also it is observed that overtime in the organization is not mandatory. The present study focus on understanding the factors influencing overtime and the attitude of the employees towards overtime.

NATURE OF PHARMACEUTICAL INDUSTRY

The Indian pharmaceutical industry started with a small turnover of Rs 8 crores in the early forties, gradually growing at a fast pace, reaching a total turnover of Rs 104209 crores in the year of 2014. It is expected to grow at about 8% annually from $1.1 trillion in 2014 to $1.6 trillion by 2020. This industry also exports a huge amount of drugs to the tune of Rs 42154 crores. India is now a leading global player in the Pharma manufacturing sector, and has been ranked third in terms of volume and 14th in terms of value of production. Presently, we have about 10563 manufacturing firms providing employment to 3, 53,692 personnel. As the demand for Pharma products increased with increasing population, there is every need for increase in productivity doing overtime to cope with the increasing demand, which is inevitable in Pharma industry.

REVIEW OF LITERATURE

Studies on this subject conducted by the Bureau of Labor Statistics, U.S. Department of Labor, Proctor and Gamble Company, the Business Roundtable, the National Electrical Contractors Association, and the Mechanical Contractors Association of America showed that continuing scheduled overtime has a strong negative effect on productivity, which increases in magnitude proportionate to the amount and duration of overtime.

Ehrenberg (1970) argues that absenteeism is one of the causes that could increase the amount of overtime worked per employee.

Bauer and Zimmermann (1999) suggest that the employee skill levels and output growth play an important role on overtime, whereas compensation for overtime has become less relevant.

Doerr, Klastorin, and Magazine (2000) infer that overtime is of significance when manufacturing to a quota, and point out that when working times are highly variable, overtime is a better alternative than hiring additional workers.

Kalwij, and Gregory (2005) suggests that a reduction in standard weekly hours increases overtime work, whereas an increase in the wage rate decreases the incidence of overtime, and union coverage appears to be of negligible importance.

NEED OF THE STUDY

The present study has got a special significance in the light of present day performance. Overtime is required in any organization for the optimum utilization of both men and the machines. It provides the ability to deal with bottlenecks, busy periods, and cover of absences and staff shortages without the need to recruit extra staff. So a study on the overtime process helps management to arrive at better productive decisions.

STATEMENT OF THE PROBLEM

The occurrence of overtime is common in organizations and hence there is more need to focus upon more empirical work in this area especially with respect to the factors contributing to overtime and analyze the attitude of employees towards overtime. Accordingly, the current paper explores the causes of overtime, because no organization can have the luxury to entertain overtime given the cost associated with such extended hours.

OBJECTIVES OF THE STUDY

- To identify the Factors contributing to overtime practices in Pharma industry
- To understand the attitude of employees towards overtime in Pharma industry
- To know the Satisfaction levels of employees with respect to overtime procedures.

RESEARCH METHODOLOGY

POPULATION

The entire aggregation of items from which samples can be drawn is known as a population. For the study, executive level and managerial level of employees in Pharma industry in Hyderabad constitute the population.

SAMPLE UNIT

A sample unit can be an individual element or a group of elements selected from the population. Those employees who work overtime from both the levels of population constitute the sample unit.

SAMPLE SIZE

The sample size is 110 which is collected from both the managerial and executives working in Pharma industry.

DATA COLLECTION

For the study, both primary data and secondary data are to be collected. Primary data is collected using questionnaire whereas, secondary data are collected using brochures, and internet and other published resources.

SAMPLING METHOD

Sampling is the act, process or technique of selecting a representative part of a population for the purpose of determining the characteristics of the whole population. In this study, convenience sampling, a non-probability sampling method has been adopted.

RESULTS & DISCUSSION

TABLE 1: SHOWING THE INTEREST OF THE EMPLOYEES IN DOING OVERTIME

	Option	N	percentage
Are you interested in doing overtime in the job	yes	90	81.8
	No	20	18.2
	Total	110	100

Source: primary data

Table 1 indicates that 81.8 percent of employees are interested in doing overtime in their organization.

TABLE 2: SHOWING THE MOST INFLUENCING INTERNAL FACTOR WHICH LEADS TO OVERTIME IN THE ORGANIZATION

option	N	percentage
unplanned production	32	29
Lack of workers coordination	6	5.5
Additional maintenance	16	14.5
postponement of work	10	9
Self interest of workers	46	42
Total	110	100

Source: primary data

Table 2 shows that 42 % of the respondents feel that the self interest is the major reason for the occurrence of the overtime. However among the other internal factors unplanned production also contributes to the occurrence of the overtime

TABLE 3: SHOWING THE MOST INFLUENCING EXTERNAL FACTORS WHICH LEADS TO THE OVERTIME PRACTICES IN THE ORGANIZATION

Factors	N	percentage
competition	15	13.7
market demand	12	10.9
seasonal factors	50	45.5
Supply chain delays	24	21.9
lack of relievers	9	8
Total	110	100

Source: primary data

Table 3 shows that 45.5% of the respondents feel that seasonal factors as the first external factor and 21.9 percent respondents feel supply chain delays as the major second external factors for the occurrence of the overtime

TABLE 4: SHOWING THE ATTITUDE OF EMPLOYEES TOWARDS OVERTIME

Scale	SA	A	UD	D	SD
The no. of working hours and the work load during overtime are in considerable levels only.	25 (22.7)	30 (27.3)	24 (21.8)	10 (9.1)	21 (19.1)
A proper balance is maintained between the normal hours output and the overtime working hours.	35 (31.8)	17 (15.5)	25 (22.7)	5 (4.5)	28 (25.5)
Regulation of no. of working hours will eliminate the stress faced during overtime	37 (33.6)	26 (23.6)	18 (16.4)	4 (3.6)	25 (22.7)
Overtime is seen as causing increasing stress to the employees.	8 (7.3)	25 (22.7)	21 (19.1)	33 (30.0)	23 (20.9)
The overtime work will directly affect the normal work for the next day.	8 (7.3)	25 (22.7)	21 (19.1)	33 (30.0)	23 (20.9)
The organization never made it mandatory to do overtime.	18 (16.4)	30 (27.3)	31 (28.2)	16 (14.5)	15 (13.6)
The top management's commitment to undertake the stress relieving measures during overtime is satisfactory	3 (2.7)	31 (28.2)	25 (22.7)	32 (29.1)	19 (17.3)
Individual accomplishments during overtime are recognized by the organization	13 (11.8)	32 (29.1)	28 (25.5)	21 (19.1)	16 (14.5)
The pay of overtime is in balance with the work assigned	14 (12.7)	31 (28.2)	29 (26.4)	20 (18.2)	16 (14.5)
The pay and the food allowances given for overtime work are excellent	33 (30.0)	26 (23.6)	22 (20.0)	15 (13.6)	14 (12.7)

Source: primary data

From the above Table 4, it is understood that the majority of the respondents perceive overtime positively only and they are willing to do voluntarily, to get the benefit of pay and food allowances.

TABLE 5: SHOWING THE SATISFACTION OF EMPLOYEES WITH OVERTIME PRACTICES

	Option	N	Percentage
Are you satisfied with the overall overtime process, policies and procedures	yes	98	89
	No	12	11
	Total	110	100

Source: primary data

From the above Table 5, it is understood that 89 percent of the employees are satisfied with the process, policies and procedures of overtime in their organizations.

FINDINGS

- It is understood that the internal factor that contributes to overtime practice is the self interest of the workmen to do overtime letting them to undergo overtime.
- Among the external factors seasonal influences contributes for the occurrence of the overtime
- As the work of overtime is intentional, the workmen do not want the working hours to be regulated and they feel no stress to do overtime.
- The work assigned during the overtime is in accordance with the number of working hours.
- From the observation it is clear that the performance during the regular hours and the overtime hours are relatively appropriate. However the extending hours do not yield the same output as that of the normal hours.
- It is clear that there is no stress in doing overtime.
- It is observed that the next day (after overtime) work is not affected by the overtime; however there is tiredness that leads to a low productivity relative to the regular productivity.
- it has been clear from the observations that majority of the respondents perceive overtime as a source for double income
- Majority of the workmen are extremely satisfied with the overall overtime process, policies and the procedures

SUGGESTIONS

- The organization might reorganize the work schedule in order to reduce the frequency of overtime.
- It is necessary for the organizations to find out measures to remove the root causes like unplanned production, additional maintenance, unauthorized absenteeism, usage of all casual leaves, public holiday workings, compensating the pending work, shift overlapping / downtime and lack of relievers for overtime
- The organization is providing double the gross pay during overtime, it will be cost effective for the organization if it might opt for non monetary perks instead of monetary.
- The industry can think about alternative ways to overtime like, Subcontracting, Reassignment of personnel, Changes in schedule, Part-time or temporary workers, Careful scheduling of vacations and compensatory time

The above mentioned procedures could be implemented and reviewed on an annual basis. As additional data is obtained, a more specific and overtime policy can be devised. It is suggested that additional research can be conducted and data obtained over a long period of time.

LIMITATIONS OF THE STUDY

The sample size is 110 only, which may not be sufficient to give the correct results. Due to constraint of time and resources, the study was conducted in one region only and result of the study cannot be generalized to the entire industry. The accuracy of the analysis and conclusion drawn entirely depends upon the reliability of the information provided by the employees.

CONCLUSION

Overtime is not mandatory for the organizations when all the workmen are intentionally opting for overtime due to factors like getting double the gross pay and the food allowances. The overtime in the organization is influenced by both internal and external factors. The internal factors includes unplanned production, additional maintenance, unauthorized absenteeism, usage of all casual leaves, public holiday workings, compensating the pending work, shift overlapping / downtime and the external factors include the intention of workers to do overtime, seasonal factors, and delay in supply chain process. Therefore, in order to reduce the overtime it is necessary for the organizations to take measures to ensure workmen complete work effectively and efficiently during the normal hours.

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A COST EFFECTIVE ANALYSIS OF TECHNICAL TRAINING IN POWER SUPPLY COMPANY

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ABSTRACT

The application of business concepts and practices to training outcomes and other human resource development interventions requires the use of methods to determine the value of the intervention. The current research undertook to measure the cost effectiveness of technical training of a power company (Supply of Electricity) emanating from the training commitment exhibited by consistent funding towards training and the continued operation of the training school. The researchers intended to measure the cost effectiveness of the training done from the technical aspect of the company, it been an engineering company. The researchers undertook to determine the changes in training of technical employees and if there are any savings attributable to training at the company. Finally, the researchers undertook to establish the benefits realised from the consistent continuous expenditure on technical training. The research was based on the neoclassic theory and developed a conceptual framework based on the cost effective ratio which means that the cost effective function produces a curve that slopes downwards whereas the ineffective function produces an upward sloping curve. The researcher used secondary data as the main data set obtained from the company operational and financial reports and this was triangulated by primary data which involved sampling 210 employees and 40 managers. The secondary data was collected from 2010 to 2014 reports which revealed mainly the training costs, number of employees trained and savings realised. The research revealed that the company was gradually increasing the number of technical employees attending technical training and that the company was making savings from overtime and subsistence allowances. However, the cost effective ratio revealed that trainings at the company were not effective when related to the identified savings.

KEYWORDS
cost, effective, analysis, training.

INTRODUCTION

Until recently there has been a general resistance to investment in training in the public service because of the belief that "employees hired under a merit system must be presumed to be qualified, that they were already trained for their jobs, and that if this was not so it was evidence that initial selection of personnel was at fault." (Stahl, 1976; 2012). This assumption has been jettisoned as the need for training became obvious both in the private and the public sectors. Many organisations have come to recognize that training offers a way of "developing skills, enhancing productivity and quality of work, and building worker loyalty to the firm." Indeed, the importance of training has become more obvious given the growing complexity of the work environment, the rapid change in organizations and technological advancement which further necessitates the need for training and development of personnel to meet the challenges.

Training and development helps to ensure that organisational members possess the knowledge and skills they need to perform their jobs effectively, take on new responsibilities, and adapt to changing conditions (Jones, George and Hill, 2000). It is further argued that training "helps improve quality, customer satisfaction, productivity, morale, management succession, business development and profitability.

The greatest single impetus to the growth of interest in training undoubtedly came from the manpower planning movement which gathered strength in the late 1950s. Originally this took the form of forecasts of the incremental need for high level manpower derived from detailed employer Survey More specifically, a detailed comparison of the metal trades in Germany and the U.K., Daly, Hitchens and Wagner (1985), ascribes the higher productivity in German firms to the superior level of the training of shop floor workers, particularly that of the foremen, who in Germany would typically have an advanced craft qualification, unlike their British counterparts. They found that this had two effects which are bound together. It enables the German workforce to use any given type of equipment more productively—the technical capabilities of machines were more fully exploited, abuses were less likely to occur, faults were more likely to be diagnosed correctly and rectified in-house. The second effect was that as a consequence management was willing to install more advanced equipment.

Most evaluations of the cost-effectiveness of training focus on its labour-market effectiveness. In more general evaluations of the effectiveness of training, recognition is given to the importance of other outcomes: the affective aspects, including the attitudes of the trainees to the training programme, its role in bringing them to terms with employment prospects, its effect on their self-esteem, its effect on job satisfaction, and its effect on social values; and the impact on social mobility, equity and sex stereotyping (Dougherty, 1989). However, there is no attempt to weigh the benefits of these aspects, or losses associated with them, with the more narrowly-defined economic aspects, even when they are susceptible to measurement (Dougherty, 1989).

THE NEED FOR TRAINING AT THE COMPANY

In the early and late 1990s, the power company used to spend an average of 5% of its total budget on training and employees were outstanding in their individual efforts and collectively produced beyond expectation. Performance assessments recommended promotion and increase in notches for many employees and the company experienced growth in profits and infrastructure

However, in early 2000s, the company experienced an upswing in the demand for power from both domestic and industry consumers and this phenomenon prompted the company to change the way it responded to performance operations.

The company rolled out a prepaid meter installation project because domestic demand for power suddenly increased mainly because of the euphoria in construction in brown fields and upgrade and demarcation of existing housing units due to increase in population per housing unit.

Therefore, the company business model changed from push to pull and this situation demanded a shift in the way of managing employee skills thus the trigger for a consented efforts in training.

The company received an average of 1,117,413 faults from the technical side of the business from 2005 to 2008 which indicated a 62% efficiency of service (Company Annual Report, 2010). This result fell by 2% between 2009 and 2013 to 60% (Company Annual Report, 2013). However, analysis of performance from the support side of the business indicated an average of 67% efficiency of performance from the employees between 2005 and 2008 whereas the 2014 report indicated 59 % exhibiting a drop by 8% (Company Annual Report, 2014). A combination of the assessments from the two arms of the business indicated an average of 60% performance rate by the employees in the company hence the need for more training.

Further, following the 2010 report on low employee performance in the company, an independent trainer, MAC Training of South Africa, was engaged to provide training in interpersonal relations and management effectiveness from which the training company observed a medium emotional intelligence of managers

measured from a self-assessment questionnaire triangulated by an intelligence test. The 60% performance level in 2005 which showed a steady increase in 2006 and 2007 before a sharp drop with the worst performance in 2010. However, the performance showed an improvement in 2011 and 2012 before another sharp fall in 2013. This situation is against the fact that the company continuously spends huge sums of money on training.
Therefore, the current research is significant because it would highlight the significant benefits realized for the average of $600,000 annual expenditure on training. Further, the cost effective curve would be exposed in order to establish is the company is cost effective or not.

STUDY OBJECTIVES
The fact that the enterprise bears the cost of the training, including the opportunity cost of the trainee's time, provides it with powerful incentives to design the training effectively, keep its duration to a minimum and eliminate unnecessary expenditure. Decisions to authorize the training are well-informed, the objectives are well-defined, and the decision maker has detailed knowledge of the context. Consequently, the current study undertook to ascertain the benefits associated with technical training and if technical training has been effective at the power company.

LITERATURE REVIEW
INTRODUCTION
There is documented evidence that training activities have a positive impact on the performance of individuals and teams. Training activities can also be beneficial regarding other outcomes at both the individual and team level (e.g. attitudes, motivation, and empowerment).
BENEFITS ATTRIBUTABLE TO TRAINING
Training-related changes should result in improved job performance and other positive changes e.g., acquisition of new skills (Hill and Lent, 2006, Satterfield and Hughes 2007) that serve as antecedents of job performance (Kraiger 2002). Reassuringly, Arthur et al. (2003) conducted a meta-analysis of 1152 effect sizes from 165 sources and ascertained that in comparison with no-training or pre-training states, training had an overall positive effect on job-related behaviours or performance (mean effect size or d = 0.62).
Garc´ıa (2005) conducted a study including 78 Spanish firms with more than 100 employees. This study related organizations' training policies (e.g., functions assumed by the training unit, goals of the training unit, nature of training, and how training is evaluated) with four types of organizational-level benefits: employee satisfaction, customer satisfaction, owner/shareholder satisfaction, and workforce productivity (i.e., sales per employee). Results suggested that training programs oriented toward human capital development were directly related to employee, customer, and owner/shareholder satisfaction as well as an objective measure of business performance (i.e., sales per employee).
Because of the paucity of primary-level studies examining the benefits of training at the organizational level, the meta-analytic reviews published to date include only a small number of studies. In the meta-analysis by Arthur et al. (2003), the researchers also examined the impact of training on organizational-level results. Only 26 studies (N = 1748) examined the benefits of training at the organizational level. Results showed that the benefits of training vary depending on the type of training delivery method, the skill or task being trained, and the measure used to assess effectiveness. However, the mean (d) for organizational results was 0.62, precisely the same effect size found for the impact of training on job-related behaviours and performance at the individual level of analysis. Similarly, the Collins and Holton (2004) meta-analysis of managerial leadership development programs included only seven studies (of 83) that included information regarding the relationship between training and tangible organizational-level benefits (e.g., reduced costs, improved quality and quantity).The total sample size in these seven studies was 418 and the overall mean (d) was 0.39, favouring training compared to control groups.
TRAINING EFFECT ON WORKERS AND PERFORMANCE
Training effects on performance may be subtle (though measurable). In a qualitative study involving mechanics in Northern India, Barber (2004) found that on-the-job training led to greater innovation and tacit skills. Additionally, Davis and Yi (2004) conducted two experiments with nearly 300 participants using behavior-modeling training and were able to improve computer skills substantially. Although behavior-modeling training has a rich history of success (Decker and Nathan 1985, Robertson, 1990), a unique aspect of this research was that training was found to affect changes in worker skills through a change in trainees' knowledge structures or mental models (Marks et al. 2002). In addition, training may enable consistency in performance across conditions. For example, Driskell et al. (2001) conducted a study including 79 U.S. Navy technical school trainees who performed a computer-based task. Trainees participated in a stress-exposure training session. This training exposes trainees to information regarding stressors (e.g., noise, time urgency), to the stressors, and how these stressors are likely to affect performance. Results showed that training was beneficial in that trainees performed well under a novel stressor and when performing a novel task
CATEGORIES OF COST ANALYSIS IN TRAINING
Cost analysis falls into two broad categories: Cost Benefit Analysis (CBA) and Cost Effectiveness Analysis (CEA). A third approach, cost-utility analysis, is often implemented as an extension of CEA. All methods presuppose a well specified intervention and a no-intervention condition, or control group, against which the intervention is compared (McEwan, 2012). In the academic literature, CEA is almost exclusively ex post, with the objective of identifying which of at least two interventions, improved a specific outcome at least cost. In applied decision settings, the CEA is often ex ante (World Bank, 2010). It is used to judge whether a hypothetical intervention should receive investments instead of other candidates
CONCEPT DESCRIPTION
The present paper argues that part of the problem in understanding and tackling deficiencies in employer training lies in the inadequacy of the largely neoclassical, conceptual framework used to analyse this issue. While the standard neoclassical theory of investment in education from the individual perspective has dominated the conceptual and empirical work adopted over the last 50 years, this approach has been less than adequate in understanding other areas of investment, such as enterprise training. It has also shielded economists from needing to go inside the "black box", which has been treated as a purely financial consideration.
The neoclassical solution, with the optimal outcome occurring where the marginal costs of training are equal to the marginal benefits has always caused problems for disciplines outside of economics. In the "neoclassical model", to maximise profits, the firm expands training as long as the marginal benefit of training exceeds the marginal cost. The general presumption is that, if the individual receives the benefits, then the onus is on the individual to pay and, if the employer receives the benefits, the onus is on the employer to pay (Becker, 1964). In the traditional neoclassical model, the extent to which the employer can capture these benefits depends upon the "specificity" of the training, in other words, the extent to which the skills developed are of use to that employer and not to other employers.
Cost-benefit analysis is very widely used whose purpose is to provide a consistent procedure for evaluating decisions in terms of their consequences. Both cost - benefit analysis (CBA) and cost – effectiveness analysis (CEA) are useful tools for program evaluation. Cost - effectiveness analysis is a technique that relates the costs of a program to its key outcomes or benefits. Cost - benefit analysis takes that process one step further, attempting to compare costs with the dollar value of all (or most) of a program ' s many benefits. These seemingly straightforward analyses can be applied anytime before, after, or during a program implementation, and they can greatly assist decision makers in assessing a program's efficiency (Cellini and Kee, 2010).
Cost - effectiveness analysis seeks to identify and place dollars on the costs of a program. It then relates these costs to specific measures of program effectiveness. Analysts can obtain a program's cost - effectiveness (CE) ratio by dividing costs units of effectiveness:
Cost effectiveness ratio (CER) = (total cost (TC))/(units of effectiveness (E))
CER=TC/E......equation 1
Where; total cost (TC) = costs spent on the training
units of effectiveness (E) = Units of effectiveness are simply a measure of any quantifiable outcome.

METHODOLOGY
INTRODUCTION
This chapter describes in detail how the research was conducted. It is simply a framework or plan of the study. It outlines the procedures and tools used in collecting, analyzing and interpreting the data. This chapter is used as a guide in collecting and analyzing data. It describes the nature of the data that was used to analyse the cost effectiveness of training at the power company.

RESEARCH DESIGN AND DATA COLLECTION

To achieve the objectives of the research, a descriptive research was appropriate and therefore adopted limiting it to the power company as a case study. During this research, the main data set which was secondary data on training cost was collected from company reports and budgets determined and committed to financial years from 2010 to 2014 which was triangulated by primary data

The relevant population for primary data in this study comprises of technical training section at the power company. The study involved a population of technical employees at the power company's head office from 2010 to 2014. This data was collected using self and email administered questionnaires to technical managers, training and human resource managers as well as employees. The total population of workers was 850 from which the researcher attempted to sample using Yamanes' formula determined as follows:

n=N/(1+N 〖(e)〗 ^2)

Where n is the sample size, N is the population size, and e is the level of precision which was set at 5% with a confidence level of 95%.

Applying the formula to derive the sample size gives the following;

n=850/(1+850 〖(0.05)〗 ^2)=272

Therefore, n = 272 were sampled according to proportion contribution to the population per section. The researchers administered questionnaires at random until the required number was reached

However, the population for managers (40) was small enough not to sample but large enough to be within the statistical rule of atleast 29 data points for any statistical testing.

RESULTS AND DISCUSSION

Physical inspection of training records from 2010 to 2014 revealed that technical training accounted for a significantly large number of beneficiaries as shown in table 1.

Technical training at the company showed a steady increase in beneficiaries over the five year review period determined in the following way:

Annual percent change (APC) = 100 x ((Current year-previous year))/(Previous year)……..equation 2

TABLE 1: NUMBER OF TRAINED EMPLOYEES AGAINST TOTAL NUMBER OF EMPLOYEES

YEAR	Total Number of Technical Employees trained	Total Number of Technical Employees at Station
2010	436	678
2011	598	745
2012	664	780
2013	712	750
2014	753	800

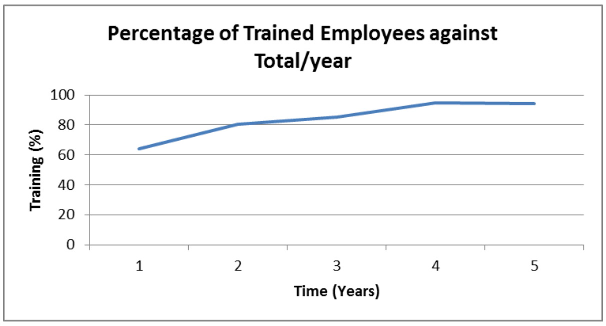
If Annual percent change = APC

Current year = X, Previous year = Y then equation 2 can be rewritten as:

APC = 100 x (X-Y)/Y………………….equation 3

The figure 1 below shows an increasing percentage of technical training beneficiaries with the lowest percent of 64 in 2010 (shown as year 1) to the highest in percent of 95 in 2013 (shown as year 4). The average technical training over the period of review was 84 percent while the average number of trained employees in the period under review was 633 compared to an average number of employees of 751. This represents 84% of the total employees benefiting from training.

FIGURE 1: ANNUAL PERCENT CHANGE IN TECHNICAL TRAINING



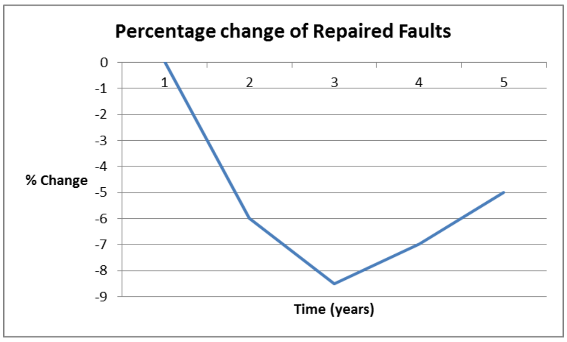
RESPONSE TO FAULTS

Statistics obtained from the company national call centre indicated that maximum faults resolution depended on the gravity of the fault, with the maximum period being 24 hours regardless of how grave the fault was. Customers are supposed to be back on supply with the option of giving them alternative supply lines within the shortest possible time of thirty (30) minutes to 6 minutes unless during load management activities

During the period under review, the company was able to save and earn some revenue due to quick resolution of faults which improved each year as the number of trained technical personnel offloaded into operations and maintenance departments increased.

Trained technical staff exhibited high professionalism and technical knowhow as evidenced by the increase in the number of faults resolved on a daily basis. This in monetary terms translated into savings on overtime claims for technical staff and other staff incentives like subsistence allowances when staff were required to backup others in other stations. Training technical staff and positioning them appropriately also saves money in terms of having to send those with the knowhow to do the jobs in various places. This information is illustrated by figure 2

FIGURE 2: PERCENTAGE CHANGE IN FAULT REPAIRS

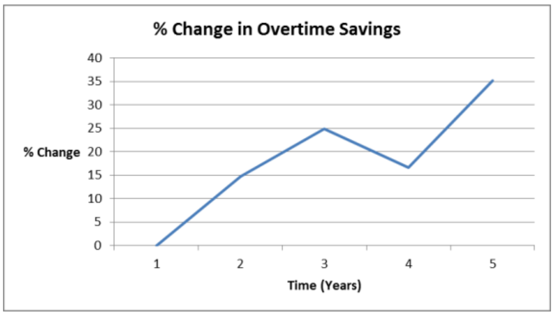


However, the trend is downward sloping from 2010 to 2012 and then it begins to shoot up towards zero from 2013 to 2014. This means that more savings were due between 2010 and 2012 but 2013 and 2014 exhibits a reduced performance in terms of number of faults reported and repaired. An economic perspective is where the reports keeps reducing to zero which would be the ideal situation.

SAVINGS FROM OVERTIME ALLOWANCES

There was an average saving from overtime allowance of K17, 201,000 (about $1,563,000) due to work performance within normal time. The savings gradually improved from 2010 to 2012, reduced in 2013 but sharply increased in 2014. This is a good positive indicator of gains from training. This trend is illustrated by figure 3.

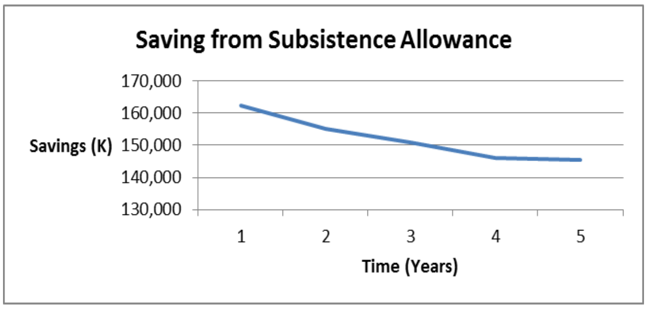
FIGURE 3: CHANGES IN SAVINGS DUE TO OVERTIME ALLOWANCES



SAVINGS FROM SUBSISTENCE ALLOWANCES

The company has over the years made savings from subsistence allowance because of not engaging workers on works requiring the allowance because all works were done within normal time. This resulted in an average saving of K152,001,000 (about $13,818,272) although the trend is downward sloping from 2010 to 2014 indicating a reduction in this type of saving as shown by figure 4.

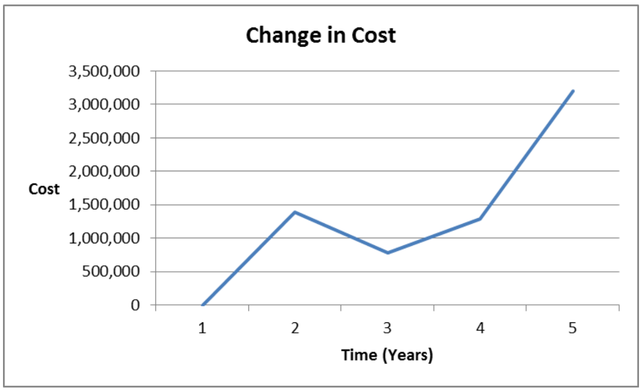
FIGURE 4: SAVINGS FROM SUBSISTENCE ALLOWANCE PER YEAR



COST OF TRAINING AT THE COMPANY

Training cost at the power company had been on the increase in the period under review at an average rate of K1,334,000 (about $121,272) representing 28% change per year.

FIGURE 5: ANNUAL CHANGE IN TRAINING COST



The figure 5 shows an escalating cost of training from the first year to the fifth year with only one drop in the third year. The theory of cost benefit and cost effectiveness produces effectiveness when benefits increases more than costs or when costs are stable or static. This increasing trend in cost is a negative indicator of effectiveness

COST EFFECTIVE ANALYSIS OF TECHNICAL TRAINING

This ratio is computed as follows:

Cost effectiveness ratio (CER) = 100*(total cost (TC))/(units of effectiveness (E))

CER=100*TC/E......equation.......4

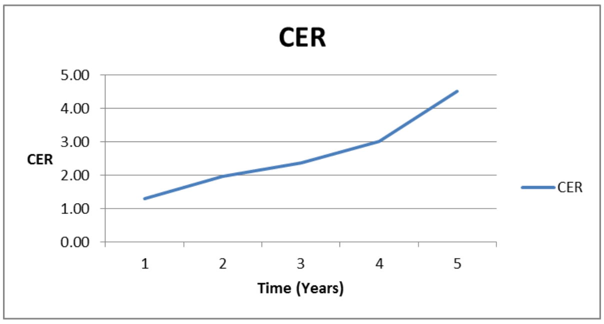
Where; total cost (TC) = costs spent on the training units of effectiveness (E) = Units of effectiveness are simply a measure of any quantifiable outcome central to the programme's objectives.

The interpretation of the ratio is that the benefit from an activity must be larger than the cost to yield a very low ratio towards infinity. Therefore, a result far less than zero (0) means that the company or investment is generating more benefits from training and the training is cost effective whereas a number greater than zero means that the investment is yielding less benefits from training.

Analysis of costs and benefits were computed in MS Excel using equation 1 and shows an average saving of K220,366,400 (about $20,033,309) against an average cost of K5,741,757 (about $521,977) yielding an average cost effective ratio (CER) of 3.0. The trend from 2010 to 2014 shows increasing cost year to year and reducing savings year to year as compared to the two savings items.

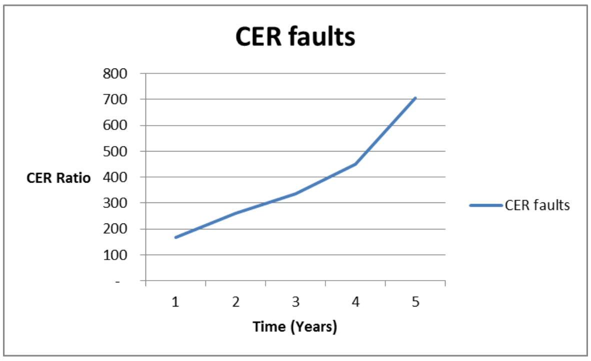
An overlay of costs and savings produces the cost effective ratio which is upward slopping. The ideal cost effective ratio is supposed to produce a downward slopping curve to infinite. This is because the benefits realized in terms of savings of units of gain per investment must be higher than the training cost. This reduces the loss from opportunity cost

FIGURE 6: COST EFFECTIVE OF TECHNICAL TRAINING



The figure 6 above shows technical training been cost effective in 2010 and losing cost effectiveness over the years when compared to the two benefit items of overtime and subsistence allowance savings. The desired cost effective ratio must be below one (1.0). Further, analysis of cost effectiveness per fault repaired exhibits an increasing ratio from K167 per fault in 2010 to K707 per fault in 2014. This ratio exhibits cost ineffectiveness as shown in figure 7

FIGURE 7: COST EFFECTIVE REGARDING FAULTS



A correlation analysis of cost and savings was performed which revealed that training savings and costs related strongly at 87.2% signifying that one unit increase in training cost results in a one unit reduction in savings. Table 2 shows the correlation output.

TABLE 2: CORRELATION OUTPUT

Correlations			
		Cost	Saving
Cost	Pearson Correlation	1	-.872
	Sig. (2-tailed)		.054
	N	5	5
Saving	Pearson Correlation	-.872	1
	Sig. (2-tailed)	.054	
	N	5	5

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A STUDY OF PROGRESS AND CHALLENGES OF SHGs IN KARJAT TALUKA

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ABSTRACT
In India women have always retained a very highly regarded position in the society from many years according to past history. In the current socio-economic situation, the concepts of women empowerment and their security always are observed by all the political parties. Without women development, economic development will not take place. For economic empowerment of women, they must have technical knowledge, skill- training and marketing to establishing enterprises for economic stability. Despite making innumerable efforts to the women empowerment, the present socio economic status of women in India is very dejected. In 1992, NABARD launch Self-Help Group (SHG) and bank linkage programme for economic empowerment of women in India. The objective of SHG-Bank linkage program was visualizing with the objectives of developing supplementary credit delivery services for the unreached poor people, building mutual trust and confidence between the bankers and the poor people. In this paper we analyze, how empowerment of women through Micro credit bank linkage programme is achieved and also study the role and performance of SHGs in promoting women empowerment in Karjat Taluka, Raigad District, and Maharashtra.

KEYWORDS
self help groups, employment, bank linkage programme, women empowerment, NABARD.

1. INTRODUCTION
1.1 WOMEN ECONOMIC EMPOWERMENT
The word "women empowerment" is first announced in 2001 in India. She is empowered when she is valued as a normal being of society who has the space to participate in public discourse. The educated Indian women are empowered because she knows her rights. But women belonging to the weaker or poorer sections of the society still face problems like domestic violence, dowry harassment, sexual harassment, etc. Empowerment is a multidimensional development and mentions to the growth of freedom of choice and action in all spheres–social, political, cultural and economic. It implies control over resources and autonomy in decision making. At the individual level it refers to improving different capabilities and at the collective level, it stands for the ability to organize and mobilize, to take action and to solve their problems. Empowerment helps people gain control of their lives through raising their awareness and helping them take action and work.

In India women participates about 50 % of the total population and comprises one third of the labor force. So it is very important that when considering the economic development of this segment of the population, due attention is given to their socio-economic empowerment. The empowerment is one of the way constituent elements of poverty reduction, and as a primary development assistance goal. The promotion of women's Empowerment as a development goal is based on a dual argument, that social justice is an important aspect of human welfare and is intrinsically worth pursuing, and that women's empowerment is a means to other ends. A recent policy research report by the World Bank (2001a) identifies gender equality both as a development objective in itself, and as a means to promote growth, reduce poverty, and promote better governance. A similar dual rationale for supporting women's empowerment has been articulated in the policy statements put forth at several high-level international conferences in the past decade. Now it is the need of hour for achieving workable development that the development creativities for women empowerment must be given importance to eradicate poverty, gender inequality, increase better standard of living. Self Help Group (SHGs) as small credit cooperatives is playing a vital role for all poor and all women in rural India. As it is well known universal truth which Aristotle said, "Man is a social animal". Since his birth man generally does not live alone. His insight of the world is based on his face to face interaction with his family members, friends and members of his community.

1.2 BANK LINKAGE PROGRAMME
SHGs-Bank Linkage Programme is emerging as a cost effective mechanism for providing financial services to the "Unreached Poor" which has been successful not only in meeting financial needs of the rural poor women but also strengthen collective self-help capacities of the poor, leading to their empowerment. Rapid progress in SHG formation has now turned into an empowerment movement among women across the country.

NABARD has introduced in 1992-93, a project for Linking SHGs with banks. The programme has helped as an alternative credit system administered by the SHGs themselves. SHGs-Bank Linkage Programme provides supplementary credit to SHGs reduction in transaction for both banks as well as SHGs by reducing paper work, to build mutual trust and confidence between banks, NGOs and the rural poor, to mobilize small savings among poor rural women, to create healthy relations between SHG members and the linkage agencies and Constant supervision and monitoring by banks through NGOs. The formation of SHGs and microfinance will enhance their socio economic status in society. Mohd. Yunus, born 1940, is a Bangladeshi banker and the developer and founder of Concept of micro credit. With the help of micro finance, women get small loan for business and its gives them an independent means of generating wealth and becoming self-reliant in a society. The two important models/channels of microfinance involving credit linkages with banks in India are (i) SHG - Bank Linkage Model: This model involves the SHGs financed directly. (ii) MFI - Bank Linkage Model: This model covers financing of Micro Finance Institutions (MFIs) by banking agencies for on-lending to SHGs and other small borrowers.

2. REVIEW OF LITERATURE
In process to find outs gapes on the topic of this paper, 09 research papers are reviewed. Authors present their view in different angles and different area progress and challenges of self-help groups.

(1) Dr. S.V. Juja study in his paper, title "Self Help Groups: A Tool for Sustainable Development" Micro finance is being measured as a powerful tool for uplifting the economic condition of poor women through group approach. Mohammed Nizamuddin examined in his paper, title "Role of SHGs-Bank Linkage Programme in Women Empowerment: A Block Level Study of Mewat Haryana" the role of bank linkage programme for women economic empowerment in particular area.

(2) Shashikala and Uma H R discussed in their paper, title "Research Note: Empowerment of women through micro credit programme" Micro-credit interventions are well-recognized world over as an effective tool for poverty alleviation and improving socioeconomic status of rural poor women.

(3) H. Ramakrishna, Khaja Mohinudeen J, Bibi Saleema G G and Mallikarjuna B study in their paper, title "Performance of Self-help group- bank linkage programme (SBLP) in India-An analytical study" that SHGs are the economy and credit groups formed informal way whose members pool savings and relend within the group on rotational basis.

(4) D. Arul and P. Packirisamy find in their study that women empowerment was very important for the acceleration of economic growth of country.

(5) Mrs. Eli kumari Das, Ms. Dharitri Baishya had discussed in their paper with title "Role of Self-Help Groups in Empowering Rural Women: A case study on selected SHGs in Rani Block of Kamrup District of Assam" that financial institutions not only provide small savings and micro credit to women but bringing them together in organised banking sector. Micro finance through SHGs has a positive role in income, savings and investment of women in Rani Block of Kamrup District of Assam.

(6) Dr. Sr. Lovely Jacob discussed that the SHGs play a major role in empowerment of women. The raising of the standard of living of the masses is one of the objectives of planning in India. Micro finance helps the rural poor to improve their standard of living and full fill their credit needs.

(7) G. Ramesh, Dr. G. Srinivasa Rao study about the role of SHG-Bank linkage programme in the economic empowerment of women in the two important districts of eastern UP. They found that the income and savings of rural women have substantially increased after joining the programme. Women participating in the said programme have paid their loans mostly on time and there was no case of default. They observed that women have started taking more loans for business after joining SHGs.

(8) Murlidhar A. Lokhande discussed in his paper with title "Micro Finance for Women Empowerment - A Study of Self-help Groups-Bank Linkage Programme" study that poor, discriminated and underprivileged women if join the groups, can come out of poverty.

(9) Uma .H.R , Rupa.K.N study that The Global Financial Inclusion Data base found that the women are particularly disadvantaged, when comes to the access to financial services. Only 37% of women in developing countries have bank account, where as 46% of men do.

3. OBJECTIVES OF THE STUDY

- To analysis the progress of self-help groups.
- To study the challenges of self-help groups.

4. RESEARCH METHODOLOGY

Raigad district is an average district of Maharashtra state with regards of social and economically. Karjat Taluka still lack in women economic empowerment. Therefore, the SHGs in this area has a very high prospect through providing gainful self-employment opportunity to the poor women for their empowerment. The present study is based on primary data as well as secondary data. The data are collected through survey method using personal interview schedule and collected from the officials of area.

5. ANALYSIS OF DATA

5.1 EFFECT OF AGE GROUP

TABLE- 1: EFFECT OF AGE GROUP

Age Group (Year)	Total Number of women	Percentage
Below 25	14	11.47
25-35	86	70.49
35-45	13	10.65
45-55	7	5.73
Above 55	2	1.63
Total	122	100.00

The impact of SHGs activities on the women of different age group is different according to age. It is clear from the table no.-1 that majority by 70.49% of the respondents are from the age group of 25-35, followed by 11.47% in the age group below 25. However, it can be noticed from the table-1 that SHGs is not very much popular among the women in the age group of below 25 and above 45. It is a matter of concern that SHGs-Bank Linkage programme is unable to target the section of senior women. Majority group is age 25-35, this age group aware of linkage program because at this age woman provide financially support to family as highest.

5.2 EFFECT OF EDUCATION

TABLE- 2: EFFECT OF EDUCATION

Education Level	Total Number of women	Percentage
Illiterate	32	26.22
Primary	47	38.52
Middle School	18	14.75
High School	17	13.93
Higher Secondary	6	4.91
Graduate or Post Graduate	2	1.63
Total	122	100

Table no.-2 revealed that the effect of education of SHG members. Highest percentage is primary education level with 38.52% and second highest is Illiterate level is 26.22%. Both illiterate and literate women can participate in the SHGs and benefited for all level.

5.3 ACTIVITY WISE INVESTMENT AND INCOME

Table no.-3 shows the details of activities wise investment and income with number of women associated with different activities.

TABLE- 3: ACTIVITY WISE INVESTMENT AND INCOME

Business Activity	No of Women	Investment in INR	Income in INR (Per month)
Pavbhaji center	6	150000	35000
Dairy	17	1500000	450000
Cloth center	5	450000	45000
Vegetable shop	19	185000	100000
Bangle shop	7	550000	60000
Saree center	3	500000	65000
Papad and pickles	39	600000	250000
Beauty parlor	6	300000	750000
Tea stall	8	120000	78000
Tailoring	6	350000	90000
Xerox center	4	500000	120000
computer center	2	400000	50000
Total	**122**	**56,05000**	**20,93000**

The table no.-3 revealed that 31% of the women engaged in preparation of Papad and pickles. 16% of the women running vegetable shops and getting more income as compared to others. From this we can conclude that rural women with the help of banking they can survive well.

6. CONCLUSION

The study shows that after joining SHG the financial condition of group members grows up and access to financial services brings positive changes among group members leading to their social economic empowerment. 122 members of SHG are included in study. The senior women and educated unemployed women must be encouraged to participate in the programme. The group members should utilize the benefits of different government schemes to enhance their business activities. Need to add more members and SHGs with bank linkage program in Karjat Taluka, Raigad District, to make more economical independent and empowerment of women in this particular area.

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CYBER-BULLYING: VICTIMIZATION OF ADOLESCENT GIRLS

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ABSTRACT

India is said to be a developing country with various new fields emerging with challenging areas, one of them is technology. India saw various phases and through globalization made advancement in science and technology and introduced a new era in history. The Indian society is undergoing change day by day. The advent of computers made India a different nation then what it used to be where everything in India is now online from 'online shopping to online education' the education sector saw a different phase where the students prefer Google and Wikipedia for school and college projects, references, history etc. Further the 24x7 use of cell phones with easy internet access has been an attraction to one and all where the young generation prefers to socialize majorly through social networking sites such as Facebook, Twitter, chat-rooms and YouTube, thereby creating a new arena for concerned research on the reckless use of cyberspace by the teens. There are some aspects of cyber-torts that have received too little attention from the government of India such as cyber-bullying in the youth. It is crucial to take a different view and evaluate the risks arising out of cyber-bullying based on the recent suicide cases. The present paper seeks to highlight on victimization of young girls on social networking sites like Facebook etc.

KEYWORDS
cyberspace, social networking sites, bullying.

INTRODUCTION

Playing pranks and teasing each other in the real world has been considered as light mischief in the developing stage of children. But the same mischief when carried on carelessly via internet may have negative aftereffects and is termed as cyber-bullying. Cyber-bullying is defined as "*willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices*."[1]

An alarming amount of girls are involved in cyber bullying, as much as 26% of reported cases as found by the cyber bullying research centre compared to only about 17% of boys, where girls may be victim as well as culprits. The users keep playing pranks and post nasty messages without witnessing their victim's reaction unlike that of face-to-face bullying such as insult, humiliation or crying of the victim.

Parry Aftab, a cyberspace security and privacy lawyer an executive director of WiredSafety.org, which serves for internet safety education and cyber ethics stated that the recent trend adopted by cyber-bullies is posting humiliating videos of those whom they dislike. The United States - philanthropist who pioneered this technology has left no stone unturned to ensure protection of online youth with de-rigueur aggressive enforcement and regulations. Comparatively India has no law till date for online youth safety; it seems the law makers have sneaking suspicion of online minor's issue to be minor and hence tossed aside it in the tech-age. The only available Act in India to bring to book online offences is the Information Technology Act 2000 as amended in 2008, which in its Section 67B addresses child-pornography and also the word 'children' has been imbedded for first time in the Act.

The survey conducted by the cyber-bullying research center states that 45.8% adolescent girls reported of being ignored online, 42.9% said that they were disrespected, 11.2% reported of being threatened on social networking sites. Similarly spreading false rumours and gossip was reported by 40% of girls. Adolescent girls have also complained of receiving online threatening messages of being killed or injured. Where parents need to be the first source of contact, very few girls prefer to inform their parents or another adult about their cyber victimization. Teen girls often complaint about the meanness lurking on social media, wherein one out of 5 girls ages14 to 17 say people her age are mostly unkind to each other on social media. And one out of 3 girls ages 12 to 13 thinks the same.[2]

Many girls who experience name-calling, gossiping, and other common forms of adolescent harassment perpetrated online exhibit healthy resilience to this behaviour whereas some prefer to respond to online bullying by cyber-bullying back.

THE AFTER-EFFECTS

Cyber bullying preceded the teens' depression, hinting at a causal relationship. Various research have found that the more cyber bullying a teen experienced, the more severe the teen girl's symptoms of depression.[3] Cyber-bullying has risky after effects on teen girls future as well as during and after being bullied and increases the risk of developing number of health and psychological problems.[4] Such after effects of being bullied on Social Networking sites may create emotional distress after or during using the internet, the girl may stop socializing with friends and family and cut off from group gathering and often skip school with a considerable change in mood, sleep and appetite, the grades may fall and she may become aggressive at home for no big reason. The social networking sites like Facebook may cause *'Facebook Depression'* a term framed by the American Academy of Paediatrics resulting in a feeling of unpopularity of being excluded from the events or group from peer circle. Many teens have to go through lower self-esteem, loneliness and disillusionment and gradual distrust of people. There have been cases where bullying aftereffect drives the adolescent's girl victim to self-harm with increased aggression towards friends and family and sometimes suicide due to shame and embarrassment of the harsh online comments.

TABLE 1

Victim Girl	Suicide method	Year	Age of the victim	SNS	Country
Teen girl from Kandivali/Mumbai	Hanged	2013	14	Facebook	India
Hannah Smith[5]	Hanged	2012	14	Ask.fm	UK
Ms. Phoebe Prince[6]	Hang herself from a stairwell	2010	15	Facebook	USA
Indian girl studying in the Siliguri Government Polytechnic College	Suicide	2010	18	MMS video via YouTube	India
Sarah Butler Lynn[7]	Hanged	2009	12	MySpace	USA
Peter Chapman[8]	Raped and murder teen girls	2009	Teens	Facebook	UK
Megan Meier Taylor[9]	Hanged	2006	13	MySpace AOL Instant Messenge	USA
Rachael Neblett[10]	Shot herself with Gun	2006	17	MySpace	USA

These are the few cases that have come to limelight, but there are several unregistered and ignored cases which never come to the notice of the society, parents and friends. The Indian culture and society fear is also another aspect where women are threatened by multiple forms of violence including burnings, acid attacks, beatings, rape and cyber- bullying-a new form of violence carried online.

Cyber bullying is an online violence against teen girls that is perpetrated not only, or even mostly by peers, close family member and friends, strangers but also from spouses and rejected love proposals and overall 'collective conscience of society' was what produced their barbarism."

Crime Patrol the Indian crime reality television series telecasted on Sony Entertainment Television Asia, has shown several real stories where women have been blackmailed and pressurized fearing that their (confidential and private) video clips would be made public.

CONCLUSION

India has no laws directly addressing this issue of cyber bullying and hence is covered under the topics of harassment and harm, defaming and humiliating teens. Government of India needs to look into this issue seriously and enact legislation governing internet with respect to cyber bullying as exists in United States. Several cases of video- voyeurism have led to insecurity and blackmailing women in the past, making the cyber- space and related technology creating only fear in adolescent girls hence teens peer aggression in real or virtual world should not be overlooked as repercussion of been victimized online may have a vulnerable real world implication.

The menace of cyber bullying can be curbed in collaboration with adults, parents, teachers' friends and school authorities. As such it also is the responsibility of all adults to be friendly and interact with kids about any such instance & make them feel protective. The wild & bold use of internet by criminals with less or no fear of law and/or internet, appeals an appropriate mechanism conjointly with appropriate laws.

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FINANCIAL PERFORMANCE EVALUATION OF KARNATAKA CO-OPERATIVE MILK PRODUCERS FEDERATION LTD. IN KARNATAKA WITH SPECIAL REFERENCE TO DAKSHINA KANNADA MILK UNION

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ABSTRACT

India's Dairy co-operatives play an important role for rapid development of rural people. This goes long way in eradication of poverty and establishment of real system of governance. Dairy is a major sub sector allied to agriculture. The weaker sections of the economy are very much helpful by this sector. The societies of dairy co-operatives have built with a great intention to support the members in different areas of economies. This article analyses the liquidity, profitability, growth and solvency of Dakshina Kannada co-operative milk producers' societies' union ltd. Data are collected from Dakshina Kannada milk union for the study and analysed by using ratio analysis and correlation technique.

KEYWORDS
dairy co-operative, correlation , liquidity, profitability, ratio analysis.

INTRODUCTION
Dairying is an ancient activity in rural setting of India. The need of dairy development in India arise due to several considerations such as low per capita availability of milk, prevalence of unemployment, increasing living condition of rural people and achieving self sufficiency in milk production. Dairying plays a vital role not only in providing income and employment for rural poorer particularly among landless labor, small and marginal farmers, but also it provides nutritional, social security and valuable organic manure for agriculture production. Dairy sector is the major source of income for an estimate 27.6 million people. Among these 65 to 70 percent are small, marginal farmer and landless labor (Subharama Naidu and Kondaiah, 2004, pp. 91-105). The operation flood programme, which was launched during 1970, organizing dairy farmer's cooperatives in rural area and linking them with urban consumers created a strong net work for procurement, processing and distribution of milk over a lakh village in rural India. The dairy sector supports around 10 million members/ farmers through one lakh cooperative society existing in the country.

KARNATAKA MILK FEDERATION
Karnataka Cooperative Milk Producers' Federation Limited (KMF) is the Apex Body in Karnataka representing Dairy Farmers' Co-operatives. It is the second largest dairy co-operative amongst the dairy cooperatives in the country. In South India it stands first in terms of procurement as well as sales. One of the core functions of the Federation is marketing of Milk and Milk Products. The Brand "nandini" is the household name for Pure and Fresh milk and milk products.

KMF has 13 Milk Unions throughout the State which procure milk from Primary Dairy Cooperative Societies (DCS) and distribute milk to the consumers in various Towns/Cities/Rural markets in Karnataka.

The first ever World Bank funded Dairy Development Program in the country started in Karnataka with the organization of Village Level Dairy Co-operatives in 1974. The AMUL pattern of dairy co-operatives started functioning in Karnataka from 1974-75 with the financial assistance from World Bank, Operation Flood II & III. The dairy co-operatives were established under the ANAND pattern in a three tier structure with the Village Level Dairy Co-operatives forming the base level, the District Level Milk Unions at the middle level to take care of the procurement, processing and marketing of milk and the Karnataka Milk Federation as the Apex Body to co-ordinate the growth of the sector at the State level.

Coordination of activities among the Unions and developing market for Milk and Milk products is the responsibility of KMF. Marketing Milk in the respective jurisdiction is organized by the respective Milk Unions. Surplus/deficit of liquid milk among the member Milk Unions is monitored by the Federation. While the marketing of all the Milk Products is organized by KMF, both within and outside the State, all the Milk and Milk products are sold under a common brand name NANDINI.

NEED FOR THE STUDY
Dairying has played a prominent role in strengthening India's rural economy. It has been recognized as an instrument to bring socio-economic transformation. A symbiotic relationship exists between dairy farmers and the milk unions who process the raw milk collected from the farmers. To strengthen the recent gains in milk production, processing calls for the new development initiatives and critical analysis of the financial performance of milk unions. Dairying must address itself to issues of profitability, liquidity, solvency and growth of dairy co operative could translate into significant benefits to dairy farmers. Thus this article aims to investigate the financial performance of Dakshina Kannada co-operative milk union of KMF.

REVIEW OF LITERATURE
Mattigatti (1990) in his research article evaluated the impact of the dairy co-operative societies on the cost-return structure of buffalo milk production in Dharwad district of Karnataka State. They found that the members of the co-operative societies get a higher rate of net profit than the non-members on total investment. They point out that the co-operative societies get a higher rate of net profit than the non-members on total investment. They further pointed out that the co-operatives have succeeded in procuring better price for the milk producers. Efficiency in operating activities and optimum financial policy may be the reason for a better margin to the members of the co-operative societies. Further, processing adds value for the product thereby increasing the return to the farmers.

R.L. Hyderabad (1991) has analyzed the pattern and productivity of financial resources employed by Karnataka Co-operative Milk Producers' Federation Ltd. in Karnataka State. The study focused on capital productivity and aimed to ascertain causative factors responsible for the poor return on investment. It found that the Karnataka Co-operative Milk Producers' Federation Ltd. had failed to manage its total financial resources effectively and efficiently. The debt capital was the most predominant source employed to finance capital requirements and a large part of the resources raised had been lost in operating activities. Thus the study

concludes that high debt and high operating losses had contributed to the poor financial working of the Karnataka Co-operative Milk Producers' Federation Ltd. and had impugned the growth of the co-operative dairy sector in the state.
Arvind M patel (2005) in his study, performance appraisal of dairy industry in Gujarat state shows the various hindrances to the performance of co operative dairy industry by high transportation expenses, high marketing expenses, high personnel expenses, high financial expenses, high processing expenses and high procurement cost. He has suggested that the diary industry should take necessary step to reduce procurement cost by reducing transportation expenses. Processing expenses is required to reduce by controlling depreciation and reducing of financial expenses by reducing loans and creating capital from equity.
Nithin. R. R. (2008) in his study Supply chain management in dairy processing units- A comparative analysis of private and co-operative units. This study revealed that quantity and cost of milk procured indicated that co operative unit procured the highest quantity compared to private units. In case of marketing products, commission charges accounted for maximum and followed by other costs like transportation cost, carriage and hamali and advertisement expenses in cooperative units.
Harish. M (2011) in his study on development and processing in Mysore Milk Union Limited observed the routine work which is carried out by in Mysore Milk Union Limited. MYMUL is playing a vital role in serving the rural class and contributing for the economic upliftment of farmers. Through the study it is discovered that they can come out with differentiated product offerings and offer better value to their customers, only when they make improvements in all the supply chain processes.

OBJECTIVES OF THE STUDY

1. To ascertain the growth of Dakshina Kannada co-opertive milk producers' federation Ltd. in Karnataka
2. To analyze the performance in terms of profitability, liquidity and solvency.
3. To analyze the relation between the Sales and Net profit.

METHODOLOGY

The research study is an attempt to examine the financial efficiency of Dakshina Kannada co-operative milk producers' federation Ltd. It is mainly based on secondary data, annual reports, balance sheet and income statement of the milk union.

DATA ANALYSIS AND INTERPRETATION

The data collected was subjected to data analysis using ratio analysis and correlation technique.
[1] Liquidity ratios

CURRENT RATIO

The current ratio of a unit measures the firms short term solvency that is, its ability to meet short term obligations. It mainly used to give an idea of the company's ability to pay short term liabilities with its short term assets.
Current ratio= current assets/ current liabilities.

TABLE NO. 1: SHOWING CURRENT RATIO

Year	Current assets	Current liabilities	Current Ratio
2003-04	115603483	53115025	2.17
2004-05	133500150	49337687	2.70
2005-06	126483528	60945235	2.07
2006-07	135114955	90807847	1.48
2007-08	152620942	98310378	1.55
2008-09	140110304	105276809	1.33
2009-10	177082185	145342946	1.21
2010-11	269622623	192506986	1.40
2011-12	221806577	161571240	1.37
2012-13	204748640	177021627	1.15

Source: Secondary data

Interpretation

The above table depicts that current ratio high in the year 2004-05 i.e. 2.70 which is more than the conventional norm 2.0 making capable for the company to meet its obligations. Therefore, the liquidity position of Dakshina Kannada milk union is satisfactory even through the ratio for subsequent years is lesser than the conventional norm.

QUICK RATIO OR ACID TEST RATIO

Acid test ratio is a test that indicates whether a firm has enough short term assets to cover its immediate liabilities.
Quick ratio= Quick assets / Current liabilities.

TABLE NO. 2: SHOWING QUICK RATIO

Year	Quick assets	Current liabilities	Quick Ratio
2003-04	99539814	53115025	1.87
2004-05	116715402	49337687	2.36
2005-06	104705099	60945235	1.71
2006-07	107528154	90807847	1.18
2007-08	122637620	98310378	1.24
2008-09	104913112	105276809	1.00
2009-10	158247143	145342946	1.08
2010-11	206579730	192506986	1.07
2011-12	177078677	161571240	1.09
2012-13	137155318	177021627	0.77

Source: Secondary data

Interpretation

The above table depicts that quick ratio of the milk union is satisfactory in the all the year except in the year 2012-13. In the year 2012-13 ratio is 0.77 and it is low compared to 1.1 satisfactory level of firm.
[2] Profitability ratios

GROSS PROFIT RATIO

Gross profit ratio is a profitability ratio that shows the proportion of profits generated by the sale of products or services. Gross profit ratio assesses a company's success in generating profits and how these profits are used to reward investors.
Gross profit ratio=gross profit/net sales*100

TABLE NO. 3: SHOWING GROSS PROFIT RATIO

Year	Gross Profit	Net sales	Gross Profit Ratio(%)
2003-04	119365000	956980623	12.47
2004-05	134100739	1088247722	12.32
2005-06	70945950	1172674499	6.04
2006-07	82152222	1436160161	5.72
2007-08	98345804	1719018775	5.72
2008-09	118276874	2030428931	5.82
2009-10	154833266	2311707336	6.70
2010-11	169118453	3003815472	5.63
2011-12	176520356	3670375017	4.80
2012-13	211828938	4474025577	4.73

Source: Secondary data

Interpretation

The above table depicts that Gross profit ratio of the milk union is in decreasing trend. Therefore the union should give attention towards making enough profit to meet the operating expenses.

RETURN ON CAPITAL EMPLOYED RATIO

The term capital employed refers to long-term funds supplied by the lenders and owners of the firm. It provides a test of profitability related to the sources of long-term funds. The higher the ratio, the more efficient is the use of capital employed. It is calculated by comparing the profit earned and the capital employed to earn it.

Return on capital employed Ratio = EBIT/ capital employed*100

TABLE NO. 4: SHOWING RETURN ON CAPITAL EMPLOYED RATIO

Year	EBIT	Capital employed	Return on capital employed Ratio (%)
2003-04	12065221	121178916	9.96
2004-05	14902986	135806411	10.98
2005-06	13261633	109505973	12.11
2006-07	11562770	103772438	11.14
2007-08	14697963	103933325	14.14
2008-09	25941732	107868041	24.04
2009-10	28089270	110973660	25.31
2010-11	41277696	122365669	33.73
2011-12	47885107	122286131	39.16
2012-13	49876744	113604012	43.90

Source: Secondary data

Interpretation

The above table depicts that return on capital employed ratio of milk union is increasing trend. Its shows that long term funds of owners and lenders are being efficiently used.

[3] Solvency Ratio

DEBT EQUITY RATIO

This ratio establishes relationship between the outside long-term liabilities and owners' funds. It shows the proportion of long-term External Equities and Internal Equities i.e. proportion of funds provided by long-term creditors and that provided by shareholders or proprietors. A higher ratio means that outside creditors has a larger claim than the owners of the business. The company with high-debt position will have to accept stricter conditions from the lenders while borrowing money.

Debt equity Ratio = long term debt/ share holders' equity

TABLE NO. 5: SHOWING DEBT EQUITY RATIO

Year	Long term debt	Share holders' equity	Debt equity Ratio
2003-04	52126055	19038300	2.73
2004-05	56804264	22990200	2.47
2005-06	82987773	26518200	3.12
2006-07	73518238	30254200	2.43
2007-08	69157125	34776200	1.99
2008-09	69983641	37884400	1.85
2009-10	69913360	41060300	1.70
2010-11	65031369	57334300	1.13
2011-12	51965831	70320300	0.74
2012-13	39626712	73977300	0.53

Source: Secondary data

Interpretation

The above table depicts that Debt equity Ratio of milk union is high in the year 2005-06 i.e. 3.12 and it is low in the year 2012-13 i.e. 0.53. Up to 2010-11 the debt equity ratio is high, the owners are putting relatively less money of their own and in the years 2011-12 & 2012-13 the ratio is low, it implies good safety margin for the creditors.

[4] Sales growth of Dakshina Kannada milk union

TABLE NO. 6: SHOWING SALES GROWTH

Year	Sales	Growth YOY (%)
2003-04	956980623	0.00
2004-05	1088247722	13.72
2005-06	1172674499	7.76
2006-07	1436160161	22.47
2007-08	1719018775	19.70
2008-09	2030428931	18.12
2009-10	2311707336	13.85
2010-11	3003815472	29.94
2011-12	3670375017	22.19
2012-13	4474025577	21.90

Compound Annual Growth Rate (CAGR) = 18.69%

Interpretation

The above table depicts that year on year sales growth rate showing fluctuating trend and it is higher than CAGR in all the years except 2004-05, 2005-06, 2008-09 and 2009-10. Therefore, growth rate of milk union is satisfactory even it is less in four year**.**

[5] Correlation between Sales and Net profit

The correlation between the sales and net profit is made with a view to know how far these two are related with each other as shown in Table.

TABLE NO. 7: SHOWING CORRELATION BETWEEN SALES AND NET PROFIT

Year	Sales	Net profit
2003-04	956980623	7362365
2004-05	1088247722	8482871
2005-06	1172674499	4921591
2006-07	1436160161	3496505
2007-08	1719018775	7130736
2008-09	2030428931	13769215
2009-10	2311707336	14906620
2010-11	3003815472	24730575
2011-12	3670375017	34532274
2012-13	4474025577	36376629

Source: Secondary data

Interpretation

Correlated value of 'r.' is 0.964

The above table indicates that there was a high positive correlation of (96.4%) between the sales and Net profit of the union during the study period. Therefore, when the value of Sales of the union increases the value of its Net Profit also increases.

CONCLUSION

For this study of financial performance evaluation of Dakshina Kannada milk union ten years of financial statements i.e. balance sheet and profit and loss account have been taken for calculation and analysis. In this study it reveals that sales and net profit of the union is positively correlated. To find liquidity, profitability and solvency position of the union ratio analysis has been used as financial tool. Through ratio analysis it revealed that position in terms of liquidity, profitability and solvency are satisfactory but the union has to take further steps to increase the profitability by reducing cost of sales.

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SOFTWARE EVOLUTION: PAST, PRESENT AND FUTURE

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ABSTRACT

Change, being a fact of life, is inevitable even in software systems. On its own part, software has become both omnipresent and vital in our information-based society which is highly dependent on computers and software. Software need to be updated regularly to ensure preservation and maintenance of their values. There is therefore the need for software to evolve. In this paper, the concept and importance of evolution are explained while emphasis is laid on Lehman's laws and perspectives of software evolution. Also, the relationships and differences between software maintenance and software evolution are brought to the fore. The laws highlighted that a software system must be frequently modified; otherwise it gradually becomes less adequate in use. It is pointed out that software lifecycle undergoes a number of distinct stages. There is a review of various software development models. Despite the challenges facing software evolution, the emerging trends are open source software evolution and unanticipated software evolution.

KEYWORDS
software evolution, computer development.

1. INTRODUCTION

The famous Greek philosopher, Heraclitus, stated that change is central to the universe and that the only constant is change. [1][2] His statement implies that there is nothing permanent except change. Being a fact of life, change is therefore inevitable. Consequently, change is everywhere and the main challenge is learning how to handle it effectively. [3]

1.1 EVOLUTION VERSUS REVOLUTION

There are two perspectives of change: evolutionary and revolutionary. [3] Usually evolutionary change occurs gradually and incrementally overtime; it takes place step by step and little by little. On the other the other hand, revolutionary change is fundamental, transformational; results in complete overhaul, renovation and reconstruction and at times irreversible. [3] As a matter of fact, in considering evolution, focus is always on whatever happens to a system over time. An organisation or a product can undergo an evolution.

Organisations may undergo an evolution due to external pressures and do so for effective address of the needs of the stakeholders while product evolution is to keep up with emerging technologies. With respect to change, software is no exception since it is impossible to produce systems of any size which do not need to be changed. [4] The inevitability of change makes it an essential characteristic of software development as software must respond to all environmental pressures and other evolving requirements and so on. [5]

1.2 SOFTWARE CLASSIFICATION

The ubiquity of computers and hence of software in virtually all aspects of human activity has resulted in the society becoming ever -more software dependent. Software has become vital and universal. [6][7]Usually, software is classified into two: system software and application software. There is still another system of classification. It is known as SPE program classification scheme produced by Lehman and Belady. S represents specified; P stands for problem solving or practical –type and E represents evolutionary or embedded.

Here, S-type programs refer to those that can be specified formally in a set of specifications and whose solution is equally well understood. The stakeholders of these systems understand the problem and thus know what is needed to resolve it.

The P-types are those that cannot be specified and the solution is not immediately known thus employ iterative process in order to find working solution. Thus, the stakeholders of this type know the needed end result, but do not have the means of describing how to obtain it.

The E-type programs are for systems that are actively used and embedded in a real world domain. In fact, E-type software is a model-like reflection of a real world where the criterion for acceptability is satisfaction of stakeholders needs. E-type systems have an intrinsic property which entails that they must be continually changed if they must remain satisfactory in a constantly changing world. [8][9][10][11][12][27]

1.3 SOFTWARE EVOLUTION

It was in the late 60s that the phenomenon of software evolution was first identified. However, at that time the term evolution was not used until the 70s. [10] The process by which programs are modified and adapted in a changing environment is referred to as software evolution. [12] Software evolution aims at implementing the possible major changes in the system and ensuring its reliability and flexibility. [13] Despite its importance, software evolution has received little attention and the amount of information available to researchers is limited. Even Professor Meir Lehman of Imperial College London carried out an empirical study of software evolution within IBM with the idea of improving the company's effectiveness. Surprisingly, the study received little attention and thus had no expected impact on the company's development practice. [12]

In the course of his study, Lehman identified a number of observations of how software evolves over time and this led to the formulation of the laws of software evolution. Actually, these laws were originally based on observations concerning propriety software such as IBM's OS/360 and OS/370 evolutions. [7] [8][11][12]

1.4 IMPORTANCE OF SOFTWARE EVOLUTION

The successful evolution of software is becoming increasingly critical since the increasing dependence of computers and software at all levels of the society. Regular update of software along with its modernisation, therefore, is very important more so when several organisations invest heavily in their software systems as they consider them to be critical resources for their business. [7]These ensure preservation and maintenance of the values of these business assets. To all companies that are producing and consuming software there is a great need for software to evolve. [10] The relevance of software evolution is on the increase due to the fact that this evolution is inevitable. [14] Furthermore, in understanding and practice of software development, studies in software evolution plays a central role.

1.5 SOFTWARE EVOLUTION VERSUS SOFTWARE MAINTENANCE

Software maintenance and software evolution are related and are at times used interchangeably. However, they are not the same. While software maintenance focuses on fixing of viruses and making minor improvements, software evolution lays emphasis on modification and resettlement. In software evolution process, programs transform their shapes and adjust to the situations in the market. Whereas maintenance is concerned with preservation and fixing of problems, evolution centres on what happens to a system over time and new designs evolving from the old ones. [5][7] Maintenance can be described in terms of constituent activities such as perfective, adaptive, corrective and preventive. [15]

Software evolution is seen as one of the difficult and challenging areas in the field of software engineering having about 60-80% of the cost of the life cycle dedicated to it. It plays an important role in system management. [7] This type of evolution is now widely recognised as a topic that deserves serious study. Software engineering education should include software evolution. Software evolution phenomenon is a topic that is necessary to investigate. [6] Since research in software evolution is very young, it entails continuous change in its focus and basic concepts.

The objectives of this study are to stress the inevitability of software evolution, to differentiate it from software maintenance, to note its centrality in software engineering and to encourage more research in this important field.

This paper is divided into five chapters. As usual, chapter one is the introduction. There is a review of software development, maintenance and evolution in chapter two. Chapter three deals extensively on the theory, processes and perspectives of software evolution. The emerging trends and challenges are handled in chapter four, while chapter five is the conclusion.

2. REVIEW OF SOFTWARE DEVELOPMENT, MAINTENANCE AND EVOLUTION

Usually, during the lifecycle of the software, it passes through a number of distinctive stages: initial development, evolution, servicing, phase out and close down. It is during the initial development that the system develops its first functioning version whereas the evolution stage offers the engineers opportunity to extend the system's capabilities and functionalities. As the software enters the servicing stage, it is subjected to minor defect repairs. However, at the phase out stage there is no more servicing; while at close down, the software is withdrawn from the market. [15]

2.1 SOFTWARE DEVELOPMENT

Simply put, software development is the planned process of the development of a software product which involves the conception of the desired software through to the final release of the software. Of the several purposes for developing software, the three most common are: meeting specific needs of a specific client/business, meeting perceived need of potential users or for personal use. Also, in developing software one can adopt the engineering-based approach or the incremental approach. No matter the approach, the stages in software development are virtually the same though the order in which they are carried out may vary. [16].

2.1.1 SOFTWARE DEVELOPMENT PROCESS

Also called software development life-cycle and software process, it is simply a structure imposed on the development of a software product. In this process, information systems, models and methodologies that are used to develop these systems are created or altered. [16][17] While developing the software, it will go through such activities as planning, implementation, testing, documentation, deployment and maintenance. Several models are employed in the course of software development and they are meant to streamline the development process.

2.2 SOFTWARE DEVELOPMENT MODELS

During the development process of software, several development approaches are defined and designed. [19] Actually, a software development model refers to a strategy organised for executing the various steps in the life cycle of a system and is designed to take place in an efficient, repeatable and predictable manner. [18] Some of the common models include: build and fix, water fall, spiral, rapid prototyping, incremental, and iterative development.

2.2.1 BUILD AND FIX MODEL

This model which works best in a monopolistic or semi-monopolistic environment took its bearing from an earlier and simpler age of hardware product development. [18] In this type, new models are brought out and old models updated and sold without testing. Here, testing is left to the customer to carry out. Of course this approach does not address the product's overall quality and provides no feedback mechanism.

2.2.2 WATERFALL MODEL

Here is a sequence of stages in which the output of each stage becomes the input for the next stage. It was introduced by Win Royce in 1970s and derives its name from the fact that it can be represented in a cascade from defining requirements, to design creation, to program implementation, to system test and to release to customers. [18] The original waterfall model had no feedback paths; feedback was introduced in later versions. Due to complexity issues, this model has been unsatisfactory for software products since it is practically impossible to perfectly address every stage before proceeding to the next.

2.2.3 SPIRAL MODEL

This model can be drawn in a spiral form and is visualised as a process passing through four phases in iterations. The phases are: planning, risk analysis, engineering and evaluation and this model is viewed as an enhancement of the waterfall model. It does not depend on ability to assess risks during development accurately. [18] Here, feedback is added to earlier stages just like other improvements of waterfall model. It is good for large and mission-critical projects and can be a costly model and therefore unsuitable for smaller projects.

2.2.4 RAPID PROTOTYPING MODEL

The activity of producing prototypes of software applications is known as software prototyping. [20] There are two major types of prototyping: throwaway prototyping and evolutionary prototyping. Throwaway prototyping also known as rapid prototyping is the creation of a model that will be eventually discarded rather than becoming part of the final delivered software. In rapid prototyping, a working model of the various parts of the system is created at the early stage after a relatively short investigation.

Among the benefits of rapid prototyping is that the designer and the implementer can get valuable feedback from the users early in the project. Therefore, a very important factor is the speed with which the model is provided. Simply put, the main reason for using Rapid prototyping is that it can be done quickly. The rapidity and iteration involved in the process generates feedback very early and leads to improvement in the final design. [21]

2.2.5 INCREMENTAL MODEL

This model recognises that the whole requirement in the software development steps are not discrete but are instead divided into a number of builds. Here, there are several development cycles with each cycle divided into smaller easily managed modules. Each build goes through the phases of requirements, design, implementation and testing. Usually the first build or the working version is improved upon and functionality is added until it becomes second build; the third build is generated from the second build, and so on. Thus, each subsequent release of the module adds a function to the previous release and the process continues till the complete system is achieved. The advantage of this model is that is that it is flexible enough to respond to critical specific changes as the development progresses. [18][22]

2.2.6 ITERATIVE DEVELOPMENT MODEL

This is also called evolutionary model and maintains a continuous feedback between each stage and the previous one and at times there is a feedback across several stages. It is different from build-and-fix and the original waterfall that operate on open loop.

2.3 SOFTWARE MAINTENANCE

Simply put, maintenance work refers to any work done to change the software after it is in operation. It is a broad activity which includes the following; error corrections, enhancements of capabilities, deletion of obsolete capabilities and optimisation. The essence of software product modification after delivery is to correct faults and to improve performance or other attributes. Usually, it consumes a large part of the overall lifecycle costs. [23] There are three types of software maintenance: maintenance to repair software faults, maintenance to repair software to a different operating environment and maintenance to add to or modify the system's function.

The impetus for software change comes from dissatisfaction with a current system and the driver of the change is innovation and not preservation. The idea is that there should be a new system that is better adapted to its environment. For instance, there was a rapid growth of software maintenance at the end of the twentieth century as a result of two massive software updates.

Set of changes that were needed to support the new unified European currency; that is the Euro. Close to 10% of the total volume of the world software needed to be updated in support of the Euro.[25]

- The Y2K or year 2000 problem was caused by the use of only two digits for storing calendar dates. For instance, the year 1997was stored as 97. The use 00 for the year 2000 would violate normal sorting rules. The effect was the failure of many software applications and in some cases production of incorrect results. Globally, 75% of the installed software applications were adversely affected by Y2K problem.

The double impact of the Euro conversion work and the Y2K repair work resulted in the engagement of more than 65% of professional software engineering population in various maintenance activities during the period 1999 and 2000. [25]

2.4 LAWS OF SOFTWARE EVOLUTION
These refer to a number of observations of how software evolves over time which Meir Lehman identified in the course of his study of the evolution of software systems. Really, the laws were not presented as laws of nature; instead they are general observations that are expected to hold for all E-type systems irrespective of specific programming or management practices. The eight laws and their years of formulation are summarised in Table1. [7] [8] [13][24][26][27]

TABLE 1

S/N	Name of Law	Statement/Description	Year
1	Continuity Change	An E-type system must be continuously adapted else it becomes progressively less satisfactory.	1974
2	Increasing Complexity	As software develops, its complexity also increases with it, except when efforts are made to maintain or reduce it.	1974
3	Self-regulation	E-type system evolution process is self regulating with measures of product and process attributes close to normal distribution.	1974
4	Conservation of organisational stability (Invariant work rate)	The normal efficient global activity rate on a developing as well as growing system over the product life time is invariant.	1978

The above laws apply mainly to monolithic, proprietary software. Also, the laws are applicable in large and tailored systems developed by large organisations. Actually, the laws represent an emerging theory of software process and software evolution based on many inputs which include software development. [25]

2.5 APPLICATIONS OF SOFTWARE EVOLUTION
According to the Third International, ERCIM (European Research Consortium for Informatics and Mathematics) Symposium on Software Evolution held on 5th October, 2007 in Paris, software evolution is applied in the following areas: software architectures, real-time systems, entrenched systems, web servers and mobile and ambient computing. [7]

3. THEORY, PROCESSES AND PERSPECTIVES OF SOFTWARE EVOLUTION
Now that the society has become ever dependent on computers and consequently on software, it is imperative that real world software be changed and adapted in response to computer usage and changes in the application. Also, the functionalities and behaviours of systems are expected to keep pace with all changes. [10]

3.1 THEORY OF SOFTWARE EVOLUTION
For the purpose of ensuring reliable planning and management of software evolution, it is essential that a theory of software evolution be established so as to facilitate understanding, refinement and extension. [6] There have been several ways of achieving an empirically grounded theory in science and they are applicable to natural, artificial and hybrid phenomena. The relevant approach to the formulation of software evolution is based on observation, hypothesis and assumptions. [10] The next is to look for patterns, regularities and trends which will provide inputs for the development of hypotheses. As the confidence in hypothesis builds up, relationships are looked for and this will help in developing the seeds of a theory from a collection of observations and inferences. [10]The development of theory follows from here.

In systematic study of software evolution, two aspects are brought to the fore: nounal view and the verbal view. The nounal view of evolution also called evolution as a noun focuses on the nature of evolution, its causes, properties, characteristics, consequences, impact, management, control and exploitation. Thus, it studies the nature of evolution, its process and products. Equally it is called the why and what of software evolution. For instance, it asks such questions as: what evolves? Why does it evolve? What drives, controls, constrains evolution process? [9]

On the other hand, there is the verbal view which is also called evolution as a verb. Any person who adopts this view concerns himself with providing and improving means, processes activities, languages and tools. Also called the how view, it considers implementation of evolution process. It asks the questions what is the goal of evolution activity? Where or which part must be evolved to attain goal. [9][10]

3.2 SOFTWARE EVOLUTION PROCESS
Recently, software evolution has become a subject of serious academic study due to the increasing strategic value of software. [28] According to Lehman and Ramil, software evolution involves all activities that change a software system. In fact, the activities of evolution of software go on with the preliminary development and also continue after the delivery of the initial version of the system. On the other hand software evolution process refers to all programming activities that are proposed to produce new software version from an earlier operational version. It is the process by which programs transform the shape, adjust the market situations and take over some characteristics fro some pre-existing programs. .[7]

Therefore, in discussing evolution process, the following objectives are borne in mind:

- Explanation of the reason for change being predictable if software structures are useful
- Discussion on maintenance of software, preservation of cost factors and approaches that are used to access revolution strategies for altering software system. [7]

3.3 PERSPECTIVES OF SOFTWARE EVOLUTION
There are different types of software systems and each serves different purposes. In the same vein, the rate and scope of evolution varies depending on the nature of the system. For instance, business systems are embedded within an organisation. On its own part, evolution can vary both in scope and in frequency depending on the system type. The concept of software evolution is now viewed from several perspectives.

3.3.1 EVOLUTION AS A PERSPECTIVE ON CHANGE
Software maintenance and evolution offer different perspectives on the nature of change. Whereas research on software maintenance addresses practical engineering goals, research on software evolution asks questions of a broader and more scientific nature. For instance, in maintenance, the questions that one may be concerned with are those have to do with next thing to-do, the risk involved and work validation. On the other hand, the researcher on software evolution handles questions on system growth speed, emergence of internal module boundaries and the difference between open source development and industrial source development. [5]

3.3.2 THE STAGED MODEL OF THE SOFTWARE LIFECYCLE: A NEW PERSPECTIVE ON SOFTWARE EVOLUTION
Software evolution is now viewed from the perspective that it is totally different from servicing, phase out and close- down. This perspective is useful in planning and helps to stimulate a set of research issues. Furthermore, there has been an assumption that maintenance phase is uniform over time in terms of activities undertaken, the process and tools used. The new perspective is that maintenance is not single uniform phase; instead, it consists of several distinct stages, with each phase having different technical and business perspective. This perspective is known as staged model. [15]

4. TRENDS AND CHALLENGES
Nowadays, there is a steady increase of reliance of ICT on software and consequently, virtually all sectors of both our private and public lives are dependent on software. It is therefore expedient that software evolves in order to be able to adapt to the real –world environment and the speed of evolution is a function of the feedback loop structure and other characteristics of the global system. [13]

4.1 TRENDS
When Lehman made his observations on software evolution, he was not given attention initially. But now, software evolution is gradually gaining attention in the area of research, open software and unanticipated software evolution.

4.1.1 RESEARCH
Generally, research in software evolution is in infancy stage and thus it is an area for exploration. [30] The whole idea of software evolution research, of course, is to use history of software system to analyse its present state and to predict its future development. For evolution research to be meaningful, it is required that there be accurate data concerning the system being studied. At present, the research is limited by the amount of information available to researchers. [33]

4.1.2 OPEN SOURCE SOFTWARE EVOLUTION
Software evolution has led to open source software evolution resulting in the discovery of new ideas that will lead to system improvement. [13] Open source software is the type of software in which users are given licences that allow them to use, modify and redistribute the original source code. With the licence, the user may decide to review the software, add features to it or fix bug or even bring out a new version. Examples of open source software are Linux which is a UNIX-like operating system and Apache open source program which is designed for Web servers. [29]

Recently, the empirical study of open source software evolution has not only become a topic of interest but its development has virtually disseminated throughout the software world. The evolution of open source software is different from that of proprietary or closed source software. [30][31]

4.1.3 UNANTICIPATED SOFTWARE EVOLUTION
In evolving software, in spite of the fact that unexpected requirement changes account for most of the technical problems, they are not well supported. [7] As a matter of fact, most of the technical complications and expenses suffered by software evolution result from changes that were not anticipated in the original design. [35] Of course predicting the future is usually difficult and the techniques and technologies that support software evolution are never ideal.

There is now an emerging technology known as Unanticipated Software Evolution (USE). USE technology recognises the fact that unanticipated changes in software systems are inevitable. Therefore, it explores mechanisms in such a way as to accommodate the unanticipated needs in the software systems. This technology is a big asset to software engineers because it works more automatically, dynamically and has a greater assurance of success. [7][35]

To explore the USE technology, the First Workshop on Unanticipated Software Evolution was held on 10-14 June 2002 at Malaga, Spain and was dedicated to towards better support for unanticipated software related runtime infrastructures.[36]

4.2 CHALLENGES
There are several challenges that are associated with software evolution; some are discussed in this paper.

4.2.1 SOFTWARE QUALITY IMPROVEMENT AND PRESERVATION
As the software system changes, its quality slowly and steadily degrades as a result of a slow decline in quality. The negative social and economic effects of aging can be overcome by the provision of more tools and techniques which will eventually ensure development of the quality characteristics of a system irrespective of its complexity and size. [7]

4.2.2 MULTI- LANGUAGE SUPPORT
There is an increase in the number of languages that are used in the software systems. In order to tackle this crucial challenge of multi-programming languages, software evolution techniques that support multi-language are provided.[7]

4.3.3 HUGE AMOUNTS OF DATA ANALYSIS
The study of software evolution is challenging due to difficulties in collecting empirical data. Here, for proper manipulation of large quantities of data, new techniques and tools such as data mining techniques used by the database community are considered. [7][34]

5. CONCLUSION
The characteristic of a software system to easily accommodate changes over time is referred to as software evolution. This feature enables software systems to incorporate new requirements in order to meet business objectives of the stakeholders. [32] In software evolution, emphasis is on preserving and improving software quality and minimizing complexities. The laws of software evolution as proposed by Lehman and his colleagues are now major players in the field of software engineering and computer science. There is the need to increase the awareness of the importance of software evolution since evolution research is still a young field. Greater attention should be given to such areas as open source software evolution and unanticipated software evolution.

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CUSTOMER PERSPECTIVE OF RELATIVE IMPORTANCE OF VISUAL MERCHANDISING VARIABLES: A CASE OF ELECTRONIC GOODS RETAILER IN HYDERABAD

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ABSTRACT

Visual merchandising is one of the prominent avenues for retailers to gain differential advantage over competitors. Retailers need to know if their efforts of making their store look appealing to the customers through effective visual merchandising are in the right direction or not. This study was done to understand customer perspective of relative importance of visual merchandising variables of an electronic goods retailer based in Hyderabad. Customer evaluations of visual merchandising variables like Store image, Store atmosphere, Store environment, Shopping comfort, Merchandise Assortment and Store layout based on the related cues of each of the variables was studied. The study also aimed at understanding the correlations among the chosen visual merchandising variables. Data extracted from 76 fully filled questionnaires was analysed. Findings reveal that the electronic goods retailer's customers evaluated Store image as the most important visual merchandising variable followed by Store atmosphere and Store environment. Highest correlation is found to exist between Store image and Store environment. Relatively less correlation was found between Store image and Store layout variables.

KEYWORDS

visual merchandising, store image, store environment, shopping comfort, merchandise assortment.

INTRODUCTION

Although online shopping has grown in popularity, shopping in-store is still an experience that shoppers love, and modern customer tends to expect a better shopping experience. Retailers use Visual Merchandising (VM) - the art of decorating retail space and much more- techniques to communicate with customers just as humans use languages to communicate with one another.

Electronics retailing dealing in electronic equipment intended for everyday use for entertainment, communications and office productivity is a significant part of the retail industry in many countries. In a study done on US consumer electronics market, it was found that in order to differentiate themselves from competitors and create sustainable competitive advantage, consumer electronics retailers must identify viable non-price methods of competing. They should then deliver above other retailers in terms of these non-price methods (Jason M Carpenter, 2010). Visual merchandising is one such effective non-price method of competing. It is a tool to have competitive edge over other establishments dealing in similar products or services. The current study was done to understand how customers evaluate various visual merchandising factors employed by the chosen electronic goods retailer.

LITERATURE REVIEW

Visual merchandising, earlier known as 'merchandising' is, simply put, promoting the sale of a product in a retail outlet. VM essentially involves combining the product, store environment and the retail space into a stimulating display to encourage the sale of a product. Diamond and Diamond, in the book *Contemporary Visual Merchandising Environmental Design,* stated that – "Visual Merchandising is presentation of a store and its merchandise in ways that aim to attract the attention of the potential customers and motivate them to make a purchase" (Diamond & Diamond, 2003). It is everything that a customer sees, both exterior and interior, that creates a positive image of a business and results in attention, interest, desire and action on the part of the customer (Holly Bastow Shoop, 1991). Most of the important attributes that influence retail store patronage - visual price, quality of the merchandise, assortment, atmosphere, location, parking facilities and friendly personnel (Bearden, 1977) – are visual merchandising variables. Research shows that many visual merchandising variables like store image, store atmosphere, store environment, shopping comfort, merchandise assortment and store layout strongly influence one another. These variables cumulatively influence customer satisfaction and loyalty.

Store image may be viewed as the way in which a store is defined in the minds of the shoppers (Martineau, 1958) and is thus a summation of their perceptions of a store on various important attributes (Josee Bloemer, 1998). Research suggests that there is some association between store image and store loyalty (Mazursky, 1986) (Hirschman, 1981)store image and store patronage decision (Darden, 1983); store image and store choice decision (Malhotra, 1983). Shoppers have more favourable perception of store image when the store provides highly personalised service. (Haiyan Hu, 2006).

Store atmosphere, one of the retail mix elements (Ghosh, 1990) refers to all the elements of the store that can be controlled in order to influence the shoppers' emotional, cognitive, physiological and/or behavioural reactions. This includes ambient factors (colour, music, odour, etc.), design factors (architecture, form, style, etc.) and social factors (kindness, courtesy, availability of sales people). Retailers must pay particular attention to the development of an atmosphere apt for and associated with their respective stores. An inviting atmosphere not only brings people into the store, but keeps them there longer. Studies show that the longer shoppers remain in a store, the more money they are likely to spend. Store atmosphere drives shoppers' pleasure, time and money spent. (Donovon, 1994). Retailers spend a lot of money in order to create a pleasant store atmosphere that will contribute to positive shopping outcomes.

Environment refers to where consumers shop; it is simply the context in which consumers buy products and services. (Murray, 1973). The retail environment affects how consumers feel at the store thus affecting their spending and loyalty to the store. Comfortable shopping environment is any consumer's desire. In first three to five seconds of entering the store consumers will decide if they are comfortable in the store or not. (Gluskin Townley Group, 2013). Shopping comfort is a critical factor in converting footfalls into buyers and in achieving customer satisfaction. Aesthetics within the retail environment affect shopping comfort. Merchandise assortment is the total set of items offered by a retailer. Shoppers look for wide choice and their preferences vary greatly across regions and across store levels. Rising importance of customer centricity has made effective product assortment planning a must for today's retailers. Too narrow assortment doesn't offer the range of products consumers expect and too broad assortment has the risk of product obsolescence. Finally, Layout refers to the arrangement of products, shopping carts; the size and shape of those items, and the spatial relationships among them. (Spies, 1997). Good layout helps the consumers find products and information easily. Cluttered shelves and narrow aisles give a feeling of crowdedness, thus negatively affecting shopper perceptions.

OBJECTIVES

This study was undertaken to:

1. Understand how customers evaluate various visual merchandising factors employed by the electronic goods retailer
2. Highlight the relative importance of the chosen visual merchandising variables basing on customer evaluation of the same
3. Analyse the correlations among chosen visual merchandising variables

RESEARCH METHODOLOGY

For the purpose of the study a structured questionnaire has been designed. Statements about visual merchandising variables namely, store image, store atmosphere, store environment, shopping comfort, merchandise assortment and store layout were measured on a Likert's 5 point scale from Strongly Agree to Strongly Disagree (5-4-3-2-1).

The questionnaire was administered to 100 respondents on the basis of convenience sample at various outlets of the electronic store during the period October 2015 to December 2015. Out of the responses received, only 76 furnished complete information. 24 responses had to be disregarded due to incomplete information. Responses were collected at the outlets itself when the respondents' in store experience was afresh in their minds. This minimised the possible deliberate responses by customers and captured their accurate perceptions.

From the responses given by the customers mean scores for the visual merchandising factors are computed. Customer evaluations of the visual merchandising variables are then rank ordered based on mean scores. These analyses are then used to highlight the most important and least important visual merchandising variables from customers' perspective.

Correlations among visual merchandising variables were calculated to understand the relationship among them.

DATA ANALYSIS AND FINDINGS

TABLE 1: CUSTOMER EVALUATION OF VISUAL MERCHANDISING FACTORS

	Visual Merchandising factor	Evaluation					Total score	Mean score
Store Image		5	4	3	2	1		
1	Interior furnishings	39	26	11	0	0	332	4.37
2	Appropriately dressed and neat employees	39	29	8	0	0	335	4.4
3	Helpful and well mannered employees	28	30	15	2	1	310	4.08
4	Knowledgeable employees	23	27	19	5	2	292	3.84
5	Product quality	24	31	16	2	3	299	3.93
Store Atmosphere								
6	Brightly lit store	35	24	12	3	2	315	4.14
7	Attractive store	33	24	16	1	2	313	4.12
8	Modern looking store	28	23	18	5	2	298	3.92
Store Environment								
9	Enjoyable shopping environment	25	30	13	6	2	298	3.92
10	Pleasant shopping environment	23	32	15	4	2	298	3.92
11	Easy shopping environment	25	30	14	3	4	297	3.91
Shopping Comfort								
12	Easy accessibility of items	33	24	11	5	3	307	4.04
13	Adequate choice of products	22	26	18	8	2	286	3.76
14	Comfortable space for shopping	28	28	13	4	3	302	3.97
15	Lose track of time while shopping	16	28	20	10	2	274	3.61
16	Comfortable lighting	24	29	14	7	2	294	3.87
Merchandise Assortment								
17	Good variety of merchandise	22	36	14	1	3	301	3.96
18	Good assortment of merchandise	16	36	20	2	2	290	3.82
19	Stocking of required accessories	11	33	20	5	7	264	3.47
Store Layout								
20	Merchandise display not cramped or jumbled	24	30	15	5	2	297	3.91
21	Well-structured route	26	25	18	3	4	294	3.87
22	Proportionately arranged shelf space	24	28	15	7	2	293	3.86

Source: Primary data

TABLE 2: RANK ORDERING OF VISUAL MERCHANDISING VARIABLES

Visual Merchandising variable	Mean score	Rank
Store Image	4.124	1
Store Atmosphere	4.06	2
Store Environment	3.92	3
Shopping Comfort	3.85	5
Merchandise Assortment	3.75	6
Store Layout	3.88	4

Source: Primary data

Store image ranked first in customer evaluation followed by store atmosphere, store environment, store layout, shopping comfort and merchandise assortment, in that order.

TABLE 3: RANK ORDERING OF STORE IMAGE FACTORS

	Store Image	Mean score	Rank
1	Interior furnishings	4.37	2
2	Appropriately dressed and neat employees	4.4	1
3	Helpful and well mannered employees	4.08	3
4	Knowledgeable employees	3.84	5
5	Product quality	3.93	4

Source: Primary data

The retail personnel's attire and neatness are perceived to be at the top of the list of store image factors. This is followed by interior furnishings, helpfulness of employees, product quality and knowledgeable employees.

TABLE 4: VISUAL MERCHANDISING FACTORS THAT RECEIVED LEAST SCORE FROM SHOPPERS

Visual Merchandising variable	Mean score
Stocking of required accessories	3.47
Lose track of time while shopping	3.61
Adequate choice of products	3.76
Good Assortment of merchandise	3.82
Knowledgeable employees	3.84

Source: Primary data

Pertaining to Merchandise Assortment, the retailer needs to work on stocking of required accessories and broaden the assortment offered. There is also scope for improving shopping comfort so as to involve shoppers to the extent that they lose track of time while shopping in the store. Providing a broad base of products to choose from will increase the propensity of retail sales.

TABLE 5: CORRELATIONS AMONG CHOSEN VISUAL MERCHANDISING VARIABLES

		Store image	Store environment	Shopping comfort	Merchandise assortment	Store Layout
Store image	Pearson Correlation	1	.797**	.641**	.717**	.575**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	76	76	76	76	76
Store environment	Pearson Correlation	.797**	1	.726**	.703**	.742**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	76	76	76	76	76
Shopping comfort	Pearson Correlation	.641**	.726**	1	.629**	.614**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	76	76	76	76	76
Merchandise assortment	Pearson Correlation	.717**	.703**	.629**	1	.615**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	76	76	76	76	76
Store Layout	Pearson Correlation	.575**	.742**	.614**	.615**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	76	76	76	76	76

Source: Primary data

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

Among all the chosen visual merchandising variables maximum correlation was found to exist between store image and store environment (0.797). Store environment and store layout are also highly correlated (0.742). Store environment and shopping comfort are also positively correlated (0.726). Store and merchandise assortment are also significantly related to one another (0.717).

Relatively less correlation was found between store image and store layout (0.575) and store image and shopping comfort (0.641).

CONCLUSION

Consumers of the electronic store assessed store image related cues as most important attributes of visual merchandising, followed by store atmosphere, and store environment. In general, over a period of time consumers form images of stores which exert strong influence on their store patronage and shopping behaviour. Consumers perceive store environment as the next important variable. This may partly be due to the impact environment has on human emotions as established by prior studies. Positive emotions result in consumers spending more time in the store. The more time consumers spend in the store, the more are they likely to purchase, thus increasing retailer's sales.

This study reiterates that there is relationship between store environment and store image as was concluded by Lindquist - that store environment is an important factor of consumers' global store image (Lindquist, 1974). Retailers can achieve the desired store image by appropriate modification of store environmental factors. Store image and store layout factors are the least correlated among the visual merchandising variables studied.

LIMITATIONS OF THE STUDY AND SCOPE FOR FURTHER RESEARCH

This study has evaluated the relative importance of visual merchandising variables from customers' perspective. How exactly do these variables impact purchase behaviour can be studied. Retailers can use this information for modifying the visual merchandising variables accordingly. Also, predictive models can be developed through further analysis among the variables found to have high correlations.

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CUSTOMER EXPECTATIONS & HEALTHCARE PROFESSIONALS PERCEPTION OF CUSTOMER EXPECTATION OF SERVICE QUALITY: A GAP ANALYSIS

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ABSTRACT

The demand for quality has gained importance & is growing immensely in the healthcare sector. Quality of service is now regarded as one of the critical success factors of any service organizations. Understanding the customer & providing what they need will sustain & help the organization to maintain its competitive position. The purpose of the study was to measure & compare the customer's expectations regarding service quality and the perception of healthcare professionals regarding customer's expectations . The level of satisfaction among the customers was also assessed. The study is conducted in a tertiary care teaching hospital. The sample included patients (customers) admitted in the surgical ward & the healthcare professionals in the surgical ward. Expectations in the physical, functional, procedural, outcome dimensions of quality were assessed. The results indicate that a gap existed between the customers' expectations & perception of healthcare professionals regarding customer's expectations in all dimensions of service quality.

KEYWORDS

customer expectations, healthcare professionals, service quality.

INTRODUCTION

Healthcare industry has developed in the last few years to a market - sensitive entity. The rapid economic and technological changes taking place in healthcare are forcing a revaluation of the values that shape the healthcare system and demand a re-examination on how quality is being defined. The rising literacy rate, higher levels of income and increasing awareness through deeper penetration of the media, has brought the Indian healthcare consumer closer to demand quality health care. The study of service quality perceptions from the patient viewpoint provides a basic feedback to the hospitals in the light of their patient-oriented and patient-centric efforts in attracting and satisfying the patients. Patient's opinion provides valuable information about the functioning of the health care system which should be taken into account while assessing the quality of hospital services.[1]. These benefits not only improve patient outcomes and increase staff effectiveness and morale, they also help administrators meet key safety goals, reduce costs, and increase market share.

In the competitive world of health care it becomes more difficult to satisfy a customer (patient). In a situation like this, it is necessary to understand that one of the key factors satisfying a patient in a hospital is its service quality. Quality is one of the prime factors, which affect satisfaction. There is a strong connection between health service quality perceptions and customer satisfaction. When the health service providers understand what exactly the customer wants when they ask for quality, they will be able to satisfy their patients and only then the hospital will be successful. Hence it is essential to understand the dimensions of quality that affects patient satisfaction. Functional components are the ways in which consumers evaluate quality; on the other hand health professionals would pay more attention on the technical components as a measurement of quality. Here there is a difference of opinion between medical professionals and customers.

Customers are precious to any business; it is necessary that they are satisfied. The department of surgery is one such place in the hospital where a patient is most vulnerable and needs maximum quality care. The customer or their relatives who accompany them in the hospital always come in a state of unwellness, and here their mental, emotional and physical condition is very unstable. The patient who is undergoing surgery is prone to all sorts of complications; he is most vulnerable and requires utmost attention. In such a place the customer expects the caregiver to pay attention to the minutest details & give him the best quality in every possible way. Hence it is important to know what are the dimensions of quality that affect the satisfaction of a customer in the department of surgery.

REVIEW OF LITERATURE

Quality is the single most effective and sustainable means of differentiation between competing companies. Service quality can be achieved by measuring customer satisfaction, handling customer complaints, creating and managing a customer loyalty program, managing relations between service quality and customer expectations & building an effective customer retention strategy. Quality can be improved by enhanced value of customers through new and improved services, reducing of errors, defects and wastes, opportunities to do better, effectiveness in the use of all resources, fulfilling the role of all public responsibilities. The determinants of quality are reliability, responsiveness, communication, security, understanding, access, and tangibles. (Dixon [2])

In a service setting such as a hospital, care quality depends on many factors. The physical infrastructure is important; there should be adequate space, with good protection from the elements and a conducive, quite atmosphere for the patient. The personnel attending the patient, ie doctors, nurses and all others, should be sufficient in number and adequately trained. The material supplies should also be adequate; good quality treatment cannot be provided if there are shortages of drugs, bandages and other necessities. In the healthcare setting, beyond all these, there are two other aspects, which are difficult to capture but are crucial are the patients trust in the system's ability and competence of the healthcare personnel to work together or click together as a team The optimum quality of care is not necessarily the most expensive care, neither is it required to be the cheapest care available, it is that which maximizes the net benefit to the patient.(Kutty [3])

According to Verma & Agarwal [4] services cannot be compared side by side on the basis of their intrinsic cues because of their distinct char, consumer rely more on extrinsic cues to evaluate service quality. Example: In evaluating doctors services the quality of the office and the examining room furnishings, the number of frames on the wall, the professionalization of nurses, human behavior of doctor – all contribute to the overall evaluation of the quality of the service of a doctor.

Since the actual quality of the service can vary from day to day, customer to customer, employee to employee, marketers try to standardize their services in order to provide consistency of quality A group of researchers devoted themselves to the study of how consumers evaluate service quality, they concluded that the service quality that the customer perceives is a function of the magnitude and direction of the gap between the customers expectation of service and the customers assessment (perception) of the service delivered,. If the service falls below expectations the consumer considers it to be of poor quality and if it exceeds consumer expectations, it is delighted and if it's only up to its expectations, he treats it a good quality.

What people expect from their health care compared with their experiences may influence their satisfaction with it. There is also some evidence that patients who receive the health care they expect may recover better than patients who do not. However, there are many definitions of what patients expect from health services, relating, for example, to health-care structures (e.g. buildings, equipment, staff), processes (e.g. waiting lists, the way that staff and patients interact) and health outcomes (e.g. the effects of the health service on patients' health, including patients' assessments of their health) and different visit types/episodes. (Bowling et. al[5]).

As quality improves, expectations increase. As consumers become more quality conscious, service firms not only need to satisfy their expectations, but to exceed them. The consequences of not meeting expectations received some attention. Researchers identify managing negative reactions, which come from unmet expectations, as strategic method for ensuring patient satisfaction. Not to do so, is to loose market share and customer loyalty. (Moore and Berry [6])

According to Woodrufe [7] service quality is of crucial importance to both customers and service providers. Quality should be functional, not restrictive and should reflect the overall business or business like activities of the organization. Quality in service organizations is largely inseparable from the service delivery; so the key focus in service quality is on people. Quality results from a team effort, a customer consciousness, which permeates all levels of the organization, from top management down. The most relevant approach in defining and measuring service is the user-based approach. The idea that quality is subjective and will be strongly linked to the individual needs and expectations recognizes that consumers have different criteria for judging service quality These can be broadly classified as follows : PEOPLE (Credibility, Professionalism, Efficiency, Courtesy, Approachability, Accessibility, Good Communication, Identifying and understanding customer needs), PROCESS (Timekeeping, Dependability, Trusted Performance level, Promptness, Efficiency), PHYSICAL EVIDENCE (Appearance of tangible aspects of the service, Physical surroundings, smartness)

Donabedian [8] developed seven attributes of healthcare quality: Efficacy (the best result or benchmark for a particular diagnosis), Effectiveness (ordinary machine or the industry average), Efficiency (a measure of cost, or the least costly of 2 identically effective treatments), Optimality (cost benefit evaluation, or the point at which further resources do not add benefit), Acceptability (adaptation of care to the wishes, expectations and values of the patients and their families), Legitimacy (the community's view of care), Equity (the principle by which one determines what is just or fair in the distribution of care and its benefits among the members of the population

Zifko-Baliga,[9] found 15 perceived quality dimensions to quality in the following manner:

Structure (building / Technological Environment, Amenities, Parking, Billing Procedures), Process(physician) –(Professional expertise, Validation of Patient beliefs, Interactive communication, Image), Process(nurse)- (Interactive caring, Professional Efficiency, Individual Reliability, Process(Staff)- (Perspicacity, Skills), Outcome (Physical / Emotional Care)

Zwelling [10] summed up that technical quality tends to focus on Donabedians 1st four attributes- efficacy, effectiveness, efficiency and optimality (bringing about wellness with the best possible result) thus excellence in technical quality is the attainment of the best clinical outcome. While these attributes seem quantifiable, a problem emerges, as these attributes converge with such considerations as quality of life, cost effectiveness and appropriateness. Functional quality involves the process of how a patient receives a service. Administrators, nurses and other medical staff members frequently determine how services are delivered in the healthcare. Patients can better understand the functional aspects by linking them to their own experiences. Examples of functional quality include, the quality of the nurse & patient interaction and the condition of the environment

O' Brien [11] elaborated on the physician attributes, identifying the following as technical aspects of quality – Accessibility, Appropriateness, Effectiveness, Continuity, Efficiency. He adds patient satisfaction, which results from meeting patients' informed expectations about the outcomes of care with compassion and concern. This last attribute- satisfaction- relates to the functional aspect of quality.

There remains considerable debate about which measures should be used to reflect surgical quality. Structural measures include a broad list of variables reflecting the setting or system in which care is delivered. These may include hospital's physical plant and resources, staff expertise or staff coordination, resource availability and may be an important determinant of surgical outcomes. Process variables describe the care that patients actually receive and are routinely used as quality indicators in nonsurgical specialties. These include practices related to central venous line management, critical care, and minimizing risks of postoperative cardiac events, venous thromboembolism, and other complications. For outcome measures, although operative mortality is most commonly used, other measures that could be considered quality indicators include complication rates, length of stay, readmission rates, patient satisfaction, functional health status, and other measures of health-related quality of life(Birkmeyer et.al, [12])

A statewide patient survey project designed to meet the dual goals of supporting internal hospital quality improvements and advancing public accountability through public reporting on comparative information on patient care experiences was undertaken by The Massachusette Health Quality Partnership [13]. 52 institutions participated in this study, which accounts for about 80 percept of the sates medical / surgical inpatient discharges and 90 percent of the child birth patients. The picker institute administered the surveys, which focused on dimensions of care which patients themselves identified as important. Dimensions measured by the included: Respect for patient preferences, Physical comfort, Involvement of family & friends, Continuity and transition, Co-ordination of care, Information and Education, Emotional Support

Bowling et.al [14], conducted an exploratory study and surveys of GP patients and hospital outpatients immediately before and after their surgery/clinic visit to measure their pre-visit expectations for their health care and their post-visit experiences. Descriptive findings revealed that most patients ideally expected cleanliness, information about where to go, convenient and punctual appointments and helpful reception staff, the doctor to be knowledgeable, clear and easy to understand, to be involved in treatment decisions and to experience a reduction in symptoms/problems. Previous consultations/experiences of health services and health-care staff/professionals most commonly influenced expectations. Generally, GP patients reported higher pre-visit expectations and post-visit met expectations. Correlations between subscale domains were strongest between the structure and process of health care, doctor–patient communication style and doctor's approach to giving information, all common indicators of the quality of health care, supporting the validity of the measures.

From a management perspective, patient satisfaction with health care is important for several reasons. First, satisfied patients are more likely to maintain a consistent relationship with a specific provider. Second, by identifying sources of patient dissatisfaction, an organization can address system weaknesses, thus improving its risk management. Third, satisfied patients are more likely to follow specific medical regimens and treatment plans. Finally, patient satisfaction measurement adds important information on system performance, thus contributing to the organization's total quality management .(Braunsberger, & Gates[15])

Ahsan et .al [16] conducted a cross-sectional study at a major tertiary care hospital, questions were asked regarding admission procedure, referral, clinical and lab investigation services, attitude of doctors and nurses, nursing services, cleanliness condition of the wards and overall level of satisfaction. Satisfaction level was high among females than males. Most of the patients having low level of education and unemployed patients were satisfied. Cleanliness condition of wards and bathrooms was highly criticised. Attitude of doctors and nurses was much appreciated. About 70% of the patients were satisfied with explanation regarding their disease. More than half (59%) were not aware of post-surgical complications, and 67% were not aware of the use and possible side-effects of medication. About half of the patients couldn't utilise hospital lab. Overall satisfaction level was 68% in medical wards and 77% in surgical wards.

Aldaqal et. al[17] determine the factors that affect patient satisfaction in the surgical ward of a university hospital. There was a strong relation between the patient dissatisfaction and patient's age (P value: 0.003), gender (P value: 0.001, with more female satisfaction), and duration of hospital stay (P value: 0). In a studied area, the factors that influence patient satisfaction are old age (> 50 years old), male gender, waiting time in emergency department and out-patient department (clinic), quality of food, quick response of consulting doctors of other departments, explanation of surgical team about lifestyle after surgery (eating habits, wound management, having shower and exercise), and length of hospital stay

OBJECTIVES

1. To measure the customer's expectation regarding service quality and the perception of healthcare professionals regarding customer's expectation in the department of surgery
2. To compare the expectations of customers & perception of healthcare professionals regarding customers expectation
3. To assess the level of satisfaction among the customers of the department of surgery.

RESEARCH METHODOLOGY

The research approach adopted in the study is descriptive cross sectional type. The study is conducted in a multi-specialty, tertiary care teaching hospital, which has more than 1000 beds. A sample of size 384 patients(customers) admitted in the surgical ward was estimated, assuming 50% of the patients were satisfied with the services and allowable error e=5%, using the formula n= $Z_\alpha * P(1-P)/e^2$. 26 healthcare professionals (15 doctors & 11 nurses) were included in the study. Healthcare professionals were the doctors who perform the surgeries in the OT's & the nurses who were working in the OT complex.

The tool selected for the collection of data included 2 structured questionnaires (one for the healthcare professionals & the other for the customers). The structured questionnaires for the customers was designed to study the expectations of the customers in the physical, functional, procedural, outcome dimensions of quality and to evaluate the level of their satisfaction. The tool for the healthcare professionals was designed to rate their perception of customer expectation. A comparison was then made to identify the gap in customer's expectation and health care professional's perception. The data was analyzed in terms of frequency & percentage.

RESULTS

The data was analysed and presented as follows: - Section 1 – Demographic data of medical professionals & customers; Section 2 – Expectations of customers about the dimensions of quality & Healthcare professionals perception of customer expectation about the dimensions of quality; Section 3 – Customer satisfaction & Perception of customer satisfaction by the medical professionals.

SECTION I: DEMOGRAPHIC DATA OF HEALTHCARE PROFESSIONALS & CUSTOMERS

TABLE 1: DEMOGRAPHIC DATA OF HEALTHCARE PROFESSIONALS

Characteristic	Percentage
Age	
Male	53%
Female	47%
Age (years)	
20-29	50%
30-39	10%
40-49	18%
50-59	15%
➢ 60	7%
Designations	
Associate professors	19%
Asst. professors	39%
Staff Nurse	42%
Experience	
6mth- 1yr	27%
1yr – 5yr	50%
5yr -10yr	15%
➢ 10yr	8%

TABLE 2: DEMOGRAPHIC DATA OF CUSTOMERS (SURGICAL PATIENTS)

Characteristic	Percentage
Age	
Male	60%
Female	40%
Age (years)	
20-29	7%
30-39	11%
40-49	57%
50-59	11%
➢ 60	14%
Education	
Illiterate	15%
SSLC	47%
Diploma/ PUC	25%
Graduate	13%
Occupation	
Unemployed	17%
Manual laborer	15%
Class IV/ agriculturist	15%
Clerical	43%
Professional	10%
Frequency of visiting the hospital	
Once a fortnight	20%
Once a month	70%
Once a quarter	5%

In the sample of customers, it was observed that 60% were males & 40% were females. 7% of the patient respondents were in the age group 20 – 29 years, 11% were in the age group 30 – 39 years, 57% were in the age group 40 – 49 years, 11% were in the age group 50- 59 years & 14% of the respondents were above 60 years of age. 15% of the customers were Illiterate, 47% of them were educated till SSLC, 25% till Diploma / PUC & 13% of them were graduates. 43% of the patient respondents were occupied in clerical jobs, 17% unemployed, 15% each in manual laborers & agriculturists & 10% of them were professionals. 75% of the customers (patients) visit the hospital once a month, 20% of them visit it once every fortnight, 5% of them visit the hospital once in every quarter.

In the sample of medical professionals, 50% of the medical professionals were in the age group of 20-29 years, 10% in 30-39 years of age, 18% in 40 – 49 years of age, 15% between 50- 59 years of age & 7% above 60 years of age. 53% of the doctors were males & 47% females, while 100% of nurses were females. Of the entire distribution of medical professionals 19% were associate professors, 42% were staff nurses & 39% were surgeons / doctors. 50% of these doctors had experience of 1-5 years, 27% had experience of 6 months – 1 year, 15% from 5-10 years & 8% > 10 years.

SECTION II: CUSTOMER (PATIENT) EXPECTATION & HEALTHCARE PROFESSIONALS PERCEPTION OF CUSTOMER EXPECTATION: Expectations of the customers in the physical, functional, procedural and outcome dimensions of quality was assessed. The customers ranked the expectation sheet in order of their preference. The healthcare professionals also ranked their perception regarding customer expectation. The gap between the customer expectation &healthcare professionals' perception is also presented in the Table 5.

TABLE 3 : CUSTOMER EXPECTATON IN THE PHYSICAL & FUNCTIONAL DIMENSION OF QUALITY

SL NO	ITEM	RANKS						TOTAL
		1	2	3	4	5	6	
	Physical dimension of quality							
1.	Seating	19%	33%	38%	10%)	-	-	100%
2.	Toilet facilities	62%	19%	16%	3%	-	-	100%
3.	Cleanliness	17%	42%	34%	7%	-	-	100%
4.	Ambience	-	-	3%	17%	82%	-	100%
5.	Staff Neatness	-	5%	13%	63%	19%	-	100%
	Functional dimension of quality							
1.	Time for pre-op diagnosis	10%	25%	35%	17%	13%	-	100%
2.	Doctor – Patient relationship	38%	13%	10%	10%	19%	10%	100%
3.	Doctors case explanation	40%	10%	7%	13%	15%	15%	100%
4.	Courteousness of staff	3%	5%	10%	15%	17%	50%	100%
5.	Nursing care	10%	17%	13%	25%	17%	17%	100%
6.	Updating of relatives about the patient condition	10%	30%	25%	17.5%	17.5	-	100%
	Procedures & outcome dimension of quality							
1.	Healthcare is a team effort	20%	17%	50%	13%			100%
2.	Length of stay of patient	43%	35%	15%	7%			100%
3.	Charges payable	37%	46%	17%	-			100%
4.	Continuity if care	-	3%	17%	80%			100%

In the physical dimension of quality the customer expects & ranks 1st the Toilet facilities provided to the patient party (62%), ranks 2nd the Cleanliness of the post-operative wards (42%), 3rd the seating arrangements for the patient party (38%) , 4th rank to the Neatness of the clothing of the staff(63%) & 5th rank to the Ambience of the waiting lounge (82%)

40% of the customers have rated 1st to doctor explaining the case, 30% of them have ranked 2nd to updating of relatives about patient condition, 3rd they ranked time taken for pre-operative diagnosis, 25% ranked 4th to nursing care, 19% of them ranked 5th to doctor-patient relationship whereas 50% of them ranked 6th to courteousness of staff.

43% of the customers expect their length of stay to be shortest, 46% of them the charges of the hospital affect them the most, 50% of them said healthcare is a team effort & 80% of them said they expect continuity of care.

These all have implications for the quality of health services and their improvement. Awareness of patients' expectations, and unmet expectations, among health service staff should enable staff to understand the patients' perspective and improve communication and unmet expectations.

TABLE 4: HEALTHCARE PROFESSIONALS PERCEPTION OF CUSTOMER EXPECTATION ABOUT THE PHYSICAL & FUNCTIONAL DIMENSIONS OF QUALITY

SL NO	ITEM	RANKS						TOTAL
		1	2	3	4	5	6	
	Physical dimension of quality							
1.	Seating	3%	58%	15%	12%	12%	-	100%
2.	Toilet facilities	32%	6%	24%	19%	19%	-	100%
3.	Cleanliness	53%	6%	35%	6%	-	-	100%
4.	Ambience	-	3%	12%	50%	35%	-	100%
5.	Staff Neatness	15%	23%	12%	15%	35%	-	100%
	Functional dimension of quality							
1.	Time for pre-op diagnosis	12%	12%	20%	35%	15%	6%	100%
2.	Doctor – Patient relationship	15%	31%	27%	27%	-		100%
3.	Doctors case explanation	28%	28%	15%	6%	20%	3%	100%
4.	Courteousness of staff	15%	6%	15%	12%	32%	20%	100%
5.	Nursing care	28%	3%	15%	3%	23%	28%	100%
6.	Updating relatives about the patient condition	3%	20%	12%	15%	12%	38%	100%
	Procedures & outcome dimension of quality							
1.	Healthcare is a team effort	62%	8%	20%	10%			100%
2.	Length of stay of patient	8%	58%	31%	3%			100%
3.	Charges payable	27%	15%	38%	20%			100%
4.	Continuity if care	3%	23%	8%	66%			100%

In the physical dimension of quality, 53% of the healthcare professionals rank 1st to cleanliness in the post-operative wards & they expect this to be affecting the patients level of satisfaction, 2nd on the rank they expect seating arrangements for the patient party (58%), 3rd on the rank are the toilet facilities for the patient party (35%), 4th is Ambience of the waiting lounge (50%)& 5th is the Neatness of the staff (35%).

In the functional dimension of quality the healthcare professionals (28%) perceive that doctor explaining the case to the patient party affects the customer satisfaction most. 2nd they rank Doctor-patient relationship (31%), 3rd is the Time spent for the pre-operative diagnosis (27%), 4th they ranked the updating of the relatives about the patient condition & 5th they ranked Courteousness of the staff of the OT complex (32%) & 6th they ranked Nursing care given to the patient (38%)

In the Dimension of quality where procedures & outcomes are considered, the healthcare professionals perceive that the customers rank healthcare as a team effort as 1st (62%), 2nd they rank The length of stay in the hospital affects the satisfaction of the customer (58%), 3rd they rank the charges that the customer pays for the service (38%) & 4th they ranked the continuity of care from the hospital to home (66%)

TABLE 5: COMPARISONS OF EXPECTATIONS

RANK	MEDICAL PROFESSIONALS	CUSTOMERS
PHYSICAL DIMENSION OF QUALITY		
1ST	Cleanliness in the post-operative wards	Toilet facilities for the patient party
2ND	Seating arrangements for the relatives of the patient party.	Cleanliness in the post-operative wards
3RD	Toilet facilities for the patient party	Seating arrangements for the relatives of the patient party.
4TH	Ambience of the waiting lounge	Neatness of the clothing of the staff
5TH	Neatness of the clothing of the staff	Ambience of the waiting lounge
FUNCTIONAL DIMENSION OF QUALITY		
1ST	Doctor explaining the case to the patient party	Doctor – patient relationship
2ND	Doctor – patient relationship	Relatives should be updated about the patient condition
3RD	Time spent for the pre-operative diagnosis	Time spent for the pre-operative diagnosis
4TH	Relatives should be updated about the patient condition	Nursing Care to the patient
5TH	Courteousness of the OT complex staff	Doctor explaining the case to the patient party
6TH	Nursing Care to the patient	Courteousness of the OT complex staff
PROCEDURE & OUTCOME DIMENSION OF QUALITY		
1ST	Healthcare is a team effort	Length of the stay in the hospital
2ND	Length of the stay in the hospital	Charges of the hospital
3RD	Charges of the hospital	Healthcare is a team effort
4TH	Continuity of care from the hospital to home	Continuity of care from the hospital to home

In the selected hospital Medical professionals ranked 1st to the cleanliness of the post-operative wards, whereas customers said toilet facilities is what they expect. Medical professionals ranked 2nd the seating arrangements for the patient party, whereas customers said cleanliness of post-operative wards. The toilet facilities for patient party was ranked 3rd by medical professionals, and customers said seating arrangements for patient party. There was a gap in givers perspective and recieviers perspective. Customers, when it comes to the physical facilities they still expect the same basic essentials to be satisfied. Customer have basic expectations like toilet & drinking water facilities, unlike posh ambience of waiting lounges; that would be added luxury to them & gives a customer a surplus of satisfaction; but doesn't affect him directly. Medical professionals may have given more importance to cleanliness in post operative ward as it has a direct relation to quick recovery of patients.

SECTION III: CUSTOMER SATISFACTION: An assessment of customers satisfaction was carried out on the 4 dimensions- physical, functional, procedural & outcomes**.** Customers were asked to rate on a five point rating scale

TABLE 6: CUSTOMER SATISFACTION ABOUT THE PHYSICAL DIMENSION OF QUALITY

SL NO	ITEM	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
1.	Seating Arrangement in the waiting area	-	95%	-	5%	-	100%
2.	Drinking water facilities for the patient party	-	68%	-	32%	-	100%
3.	Cleanliness in the post – operative wards	5%	95%	-	-	-	100%
4.	Hygiene of the linen being used	-	70%	-	22%	8%	100%
5.	Cleanliness & hygiene in the dept	-	87%	-	10%	3%	100%
6.	Kindness & sympathetic nature of the staff of the OT complex	50%	50%	-	-	-	100%
7.	Neatness & Tidiness of the dress of the staff	87%	8%	-	5%	-	100%
8.	Toilet facilities for the patient party	3%	19%	-	75%	3%	100%
	OVERALL	20%	50%	-	25%	5%	100%

95% of the customers are satisfied with the seating arrangements, 68% satisfied with the drinking water facilities, 75% are dissatisfied with the toilet facilities, 95% satisfied with the cleanliness, 50% satisfied with the sympathetic nature of the staff, 70% are satisfied with the Hygiene of the linen being used , 87% are very satisfied with the neatness of the staff

The 1st impression of any dept is made just by what the customer can see. The physical facilities of any department should be visually appealing. The department should not lack certain facilities of a social nature like availability of waiting areas, facilities of seating, toilet facilities & drinking water facilities etc. Availability of good toilet facility is a must in any waiting area. As many of the patients are dissatisfied with the toilet facilities (patients have ranked it 1 in the expectation scale), management must pay immediate attention and improve the facilities.

TABLE 7: CUSTOMER SATISFACTION ABOUT THE FUNCTIONAL DIMENSION OF QUALITY

SL NO	ITEM	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
9.	Communication with OT staff	-	10%	-	62%	28%	100%
10.	Time taken for admission	-	23%	-	52%	25%	100%
11.	Time taken for Pre- Operative diagnosis	-	10%	-	50%	40%	100%
12.	Attention given by the doctor	-	92%	-	5%	3%	100%
13.	Information given to the patient about the surgery	-	90%	-	10%	-	100%
14.	Handling any complication in OT	3%	90%	-	7%	-	100%
15.	Nursing Care	82%	15%	-	3%	-	100%
16.	Post-Operative doctor visits	15%	85%	-	-	-	100%
17.	Information about the patient condition to the attenders	10%	10%	-	80%	-	100%
	OVERALL	20%	45%		20%	15%	100%

Patients are satisfied with certain aspects: 92% with the attention given by the doctor, 90% with the information given about the surgery, 90% by the way in which any complication was handled in the OT, 82% with the nursing care, 85% with the pot-operative doctors visit. Dissatisfaction is seen with following- 62% with communication with the staff, 52% with the time taken for admission, 50% with the time taken for pre-operative diagnosis, 80% by the way in which information about patients conditions is given to the attenders.

Satisfaction with hospital care is too often assessed on the basis of amenities that have little relationship to the clinical quality of care said Rees [18]. He feels that amenities do not indicate the quality of what happens to people while they are in the hospital and what happens to them after they discharge. He recommended the measure of respect for patient values, preferences and their needs, co-ordination of care (scheduling tests and procedures) : information & education provided: physical comfort(waiting time after call bell); emotional support and alleviation of fear and anxiety; opportunity for involvement of family and friends; provision for continuity transition to the home environment. The present study indicates there is dissatisfaction about communication aspect. Communication is a important indicator of service quality in any service organization. It is vital that OT staff give necessary information to the patients & also constantly update their attenders.

The attenders play an important role in choice of hospital as well helping them in recovery. They experience a lot of anxiety about their dear ones undergoing surgery and should be kept well informed as it will influence intention to recommend the hospital.

TABLE 8: CUSTOMERS SATISFACTION ABOUT THE QUALITY OF PROCEDURES

SL NO	ITEM	YES	NO	TOTAL
	Quality of procedures			
18.	Are the consent forms signed by the patients	100%	-	100%
19.	Are there delays in surgeries	85%	15%	100%
20.	Are the delays informed to the Patient	40%	60%	100%
21.	Was the operation a success	92%	8%	100%
22.	Any post operative complication	47%	53%	100%
23.	Any expected post-operative complications informed to the patient	85%	15%	100%
	OVERALL	62%	35%	100%
	Quality of outcomes			
24.	Satisfaction with the post surgical care	97%	3%	100%
25.	Satisfied with the hospital	100%	-	100%
26.	Did the care help the speedy recovery of the patient	100%	-	100%
27.	Does the design of the structure helps the fast movement of the patient	23%	77%	100%
28.	Does the hospital's monetary charges justified to the treatment given	97%	3%	100%
29.	Recommend the hospital to others	100%	-	100%
	OVERALL	85%	15%	100%

100% of the customers have signed the consent forms before surgery, in 92% of the cases the operation was a success, 53% of the customers did not have any post operative complication, 85% of them were informed of any expected post-operative complication prior to the surgery .

97% of the customers were satisfied with the post surgical care, 100% of them are satisfied with the Hospital, 100% of them feel that the care given helped their speedy recovery, 97% feel their monetary charges justified, 100% said they would suggest this hospital to others. Certain areas of concern are : 85% of them agree that the surgeries were delayed, 60% of the delays were not informed to the patient party. 77% of them feel the structure of the hospital does not facilitate the fast movement of the patient.

DISCUSSION

A customer of a healthcare facility in addition to getting better health outcomes, also is influenced by many other factors during his/her stay in the hospital. They are some physical dimensions such as infrastructure, aesthetics etc, functional aspects such as nursing care, courtesy etc. These factors are seen to affect the overall assessment of quality of medical services, also significantly influence the decision whether a patient wants to go back to the same facility again when the need arises and form the basis of recommendation of the facility by the patient to his/her circle of family, and friends. Hence there is a need for every healthcare organization to constantly assess the expectations of the customers and measure their level of satisfaction. The present study is an effort to do so. There exists contrast between customers expectations & perception of healthcare professionals regarding customers expectations. Customers give more priority to basic amenities whereas healthcare professionals give importance to factors which influence outcome of care. Healthcare professionals paid attention to things like healthcare being a team effort & continuity of care from hospital to home whereas the customers are more worried about the length of stay in the hospital & the charges of hospital because these are the things that directly affect the customers. Longer the stay in hospital leads to more expenditure & more loss of productive time. Medical professionals should pay attentions to all this.

Hamilton, Lane, Gaston, et al[19] have mentioned in their review of surgical literature cite various factors such as meeting of expectations, staff politeness, the surgeon's communication skills and surgical waiting times have all been suggested as influencing eventual satisfaction. The present study showed that patients are dissatisfied with some aspects such as toilet facilities, time taken for admission, Communication with OT staff, information given to patient attenders. Caljouw, Beuzekom and Boer[20] in their study were assessing patient satisfaction with perioperative and anaesthesia care that included questions about information, professional competence, service, and staff–patient relationship. It was found that information provision and the relationship between staff and patient were the major determinants of patient satisfaction.

Mira et al[21] report 75% satisfaction in a large sample of patients (undergoing urology, traumatology, ophthalmology and general surgery) discharged in a 2-month period from multiple Spanish hospitals. They found that in addition to successful surgical procedure other facets relating to the experience of the surgical episode such as previous explanation of the procedure, provision of information at admission and at discharge, and quickness of response on the ward all substantially influenced the patient's overall satisfaction response. The present study highlighted certain areas of concern: the delay in surgeries, many said that the delays were not informed to them. Many reasons can be attributed to delay: surgeon being held up in another procedure, late arrival of surgeon, waiting for patient to be stabilized before starting procedure, operating room not being available as previous case is not over etc. Its important to update the patient attenders about the delay as they would be waiting with anxiety. Cleary[22] also mentions many studies emphasise that the patient's satisfaction following a surgical procedure is not limited to the outcomes of the intervention, but influenced by the experience of the event as a whole, from preoperative consultation to postoperative review.

CONCLUSION

Evaluation of medical care services in hospitals encompasses the evaluation of the organization; the physical, the functional, the procedures & the outcome dimensions of quality & its impact on healthcare users. Evaluation of hospitals is complicated by the multidisciplinary nature of activities, diversity of staff, variation in the intensity of care of each patient & the intangible outcomes of medical care, thereby forcing qualitative judgments on the evaluations. What one measures is therefore only certain dimensions from which inferences are drawn & corrective actions are taken.

If healthcare providers understand what expectations customers have and what attributes consumers use to judge healthcare quality, steps may be taken to monitor & enhance the performance of those attributes. The surgical ward is one such department in the hospital where the patient is in need of most care, concern. Their relatives are in a very anxious state; normally go through emotional shock, turmoil, etc. In a situation like this the hospital staff & atmosphere should be such that they should be comfortable, or at least the physical facilities available in the hospital, the functions of the department, their procedures should not cause more inconvenience to the patient party.

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HR PRACTICES AND PERFORMANCE ON THE HOTEL INDUSTRY IN INDIA

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ABSTRACT

The business india is concerned factor with improvement of hotel industry performance. Consequently, HumanResource Management (HRM) practices performance on hotel industry has been the major concern ofthe previous scholars. Therefore, any industry that fails to improve its performance would not be able to meetup with trends in achieving competitive advantages. Accordingly, the aim of this study is to elaborate on the effect of HRM practices performance on hotel industry performance in india. From the literature scrutiny this paper wraps up that HRM practices such as rewards and compensations as well as, performance appraisal are the HRM practices that improve industry performance within the organization.

KEYWORDS
hr practices, hotel industry, hr performance, employee relations, reward and compensation.

1. INTRODUCTION

The performance of HRM Practices on industry has been given different perceptions, predominantly on the relationship between HRM practices and their effect on industry performance. The industry is implementing proactive HRM practices and in order to capitalize on the strength of this critical asset for sustained competitive advantage in today's knowledge economy. Guest (1997). Delaney and Huselid (1996), identified HRM practices, this has been the area of focus in this study. HRM practices that affect Industry performance are in relation to human resource planning, performance appraisal; reward and compensation, (Guest, 1997, Delaney & Huselid, 1996). In reality, rewards lead to employees' motivation, commitments, satisfactions and opportunity to participate in the industry activities and eventually will lead to industry performance (Katou, 2008). industry performance that this study considered is mainly HRM performances such as employee relation and employee satisfaction.

2. LITERATURE REVIEW

2.1 INDUSTRY PERFORMANCE

Industry performance is defined as effectiveness, efficiency, development, satisfaction, innovation and quality (Katou, 2008) Also, Ali, Zairi and Mahat (2006) developed a model of industry performance comprises of employee satisfaction and the employee's performance. Nevertheless, both internal and external factors are prerequisite in measuring performance since organization depends on them for survival as well as business continuity (Mahmood & Mann, 1991). Based on the review of previous research, this study operationalized industry performance using a small number of of the performance indicators for industry performance such as, employee satisfaction, employee relations.

2.1.1 EMPLOYEE RELATIONS

There are few studies on employee relations when developing countries are concerned (Budhwar, 2003) Although,most of the scholars on employee relations are basically from western world due to the multinational companies inmostly the developing countries and since it enables to manage the global age is very important (Budhwar & Debra, 2001; Schuler et al., 2002). Thus, the relationship between employers, employees need to be cordial for effective communication and efficient performance. Also, the only avenue for improved productivity and industry growth is where employee relations are well organized and suitable for the employee. Therefore, employee relation is defined as a situation where there is cordial relationship between the employers and the employees. The various benefit organizations derive from employee relations are numerous among them are: (1) It assists organizations the ability to maintain healthy employer-employee relationships. (2) It helps to tackle and administer workplace conflict, employers minimize potentially disruptive behavior. (3) The employer is able to identify and avoid crisis ahead of time also helps employees focus on their professional development, and support industry goals and (4) It promotes a culture that recognizes and takes into account the interests and well-being of employees.

2.1.2 EMPLOYEE SATISFACTION

Employee satisfaction could be defined as the level at which employees love their jobs (Spectar, 1997; Antoncic &Antoncic, 2011). When an employee's derives satisfaction on their job, the manifestation is that it will steer themto increase production, services rendered, there will be industry growth and in returns the employees that are rewarded both in cash and in kind for instance, rewards and incentives, promotion will work towards the industry performance (Miskell & Miskell, 1994; Pierce & Newstrom, 1980; Mulej, 1986; Christensen & Staines, 1990).

3. HUMAN RESOURCE MANAGEMENT PRACTICES

Human resource management practices are the tools influencing organizations to increase in its performance. The subsections 3.1-3.3 below expatiate on the HRM practices.

3.1 HUMAN RESOURCE PLANNING

Empirical research shows that the establishment of well-defined industry goals and objectives influence or shape employee retention and job productivity. For instance Kim et al (2005) cited in Morncaz, Zhao & Kay (2009) found that industry direction and support had a major impact on employee job satisfaction and overall commitment to the organization. In much the same way, results from another empirical study indicates that perceived industry support strongly influences job satisfaction and employees' commitment to their organizations (Susskind et al., 2000).

3.2 PERFORMANCE APPRAISAL

The term performance appraisal process indicates an activity that ensures mutual understanding between the subordinate and the supervisor through the process of evaluating directly the subordinate job specific performance priorities and expectations, communication, and assigned responsibilities. The activity of performance appraisal is also a process of providing episodic and scheduled feedback that seeks to enhance teamwork and promote greater efficiencies and abilities. Generally, the performance appraisal activity is utilized by management to help develop and nurture subordinates within their organizations and in their supply chain partners. In a way appraisals can enhance job performance by focusing and emphasizing on industry communication and its shared values and objectives. This process also systematically spells out job duties and responsibilities as they evolve over time. Appraisals are generally regarded as useful because they add value to the organization. However, the main objective of the performance appraisal process is its emphasis on subordinate or employee job performance.

Through appraisals decision makers can also set goals and continuously support employees to improve their work output. It is no wonder then that the critical functions of performance appraisal include deciding who should be promoted, given a pay raise and so forth (Murphy et al, 1995). Similarly, compensation and salary decisions may depend primarily on performance appraisals. One should note that salary satisfaction is one of the key factors thatshape job performance. It may also show proof of the weaknesses of the existing performance management system. It should be highlighted that superior results or performance can be attained and sustained within organizations by individuals or groups. Thus, inter-team and inter-industry competition can be harnessed to stimulate contribution to staff improvement schemes. In fundamental nature, performance appraisal is premised on recognizing attainment of certain objectives belonging to a specific job within a given time period. Moreover, this activity plays a crucial function in shaping the perception of subordinates about self and about their contribution to the realization of industry goals. In a study, Bdernardin and Russel (1993) posited that broader communication of policies on performance appraisal within organizations is critical to make subordinates understand their specific functions in organizations. Performance appraisal has a positive relationship with industry performance because client- basedperformance appraisal enhances quality and productivity, firm performance and increase subordinates commitment (Lee & Lee 2007; Sang, 2005; Rahman, 2006). Likewise, Brown and Hewood (2005) posited that the process of performance appraisal system has a positive association or relationship with enhanced productivity of firms. For Cook and Crossman (2004) the relationships formed between employees and supervisors during the process of performance appraisal strengthens the relationships of the players involved. From the above discussion, performance appraisal is an important instrument to base career development, recognition, and promotion of employees (Larsson et al. 2007).

3.3 REWARD AND COMPENSATION

The effective compensation and reward process enhances productivity, the quality of goods and services, improves subordinates' behavior, and decreases accident rates in organizations, thereby improving industry performance (Delaney & Huselid, 1996; Chiu et al., 2002; Dreher & Dougherty, 2005, Jyothi & Venkatesh, 2006).Rewards and Compensation shape employees' behavior and performance output, and encourages retention of talented personnel. Certainly, employee competencies improve industry performance and by inference enhance effectiveness and encompasses all forms of monetary returns and related services provided to subordinates or employees (Milkovich & Newman,1999). In support of this, Mathis and Jackson (2004) posited that a balanced, transparent and competitive reward and compensation system influence the retention of talents. Similarly, Dreher & Dougherty (2005) conclude that a reward-based approach functions as the driver of team and individual performance in organizations while Chiu et al., (2002) argued that rewards and compensation considerably affect industry performances. From the above discussion, rewards and compensations enhance retention of employees with the best talents (Mathis and Jackson,2004) for efficiency within the organization. Thus, based on literature review, the proposed research model is presented in Figure 1 below:

FIGURE 1: HRM PRACTICES ON INDUSTRY PERFORMANCE MODEL

HRM Practices:
- Human Resource Planning.
- Performnace Appraisal
- Reward and Compensation

→

Industry Performance:
- Employee Relations
- Employee Satisfaction

4. CONCLUSION

This paper discusses hr practices and performance on the hotel industry in india .The discussion is based on the benefits of HRM practices on industry performance among India Firms. It also presents a model that can enhance industry performance. The ability of the organization to improve performance through the unique attributes of human resource management, reward and compensation, avails them of business continuity and the ability to have a competitive edge over other firms cannot be underestimated especially when the business activities are now towards a global world.

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EFFECT OF PEOPLE PRACTICES ON TEACHER'S PERCEIVED ORGANIZATIONAL SUPPORT

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ABSTRACT

Purpose: *With increasing competition between schools to retain good talented and competent teachers there is also an increase in head hunting since the demand for quality teachers is more where as the supply is less. Relationship pattern between co-workers and principal define the perception of organizational support of a teacher in a major way. A harmonious inter personal relationship with the work people is very important in order to retain teachers. The aim of this paper is to examine the extent to which Perceived organizational support is driven by people practices (perceived supervisor support and co-worker support) in a school. The results of the study would enable a better understanding of what teachers actually expect from their principal and co-workers.* ***Design/Approach:*** *This study incorporates a model with linkage between people practices and perceived organizational support. A questionnaire was used in order to collect information from teachers of Dharapuram union. T-test, cross tabulation and correlation was performed to find the relationships between dimensions. Results revealed that high concentration on people practices would help retain talented teachers in school.* ***Originality / Value:*** *Generally Perceived organizational support and people practices have been studied to a greater extent in industries with not much importance given to education sector especially schools. This study is the first of its kind to study POS in udumalpet union taking people practices as the driver to POS.*

KEYWORDS

teachers, pos (perceived organizational support), hr (human resource) practices, pss (perceived supervisor support), pcws (perceived co-worker support.

INTRODUCTION

In today's context of work in school environment the people practices of an organization namely the co-worker and principal support influence a teacher's perception about organizational support. It is with these two entities that the teachers engage with in day to day activities. So a cordial and harmonious relationship amongst them has a heavy impact on the extent to which a teache forms an impression regarding organizational support.

Organizational support theory (Eisenberger, Cummings, Armeli, & Lynch, 1997; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Rhoades & Eisenberger, in press; Shore & Shore, 1995) supposes that to meet socioemotional needs and to determine the organization's readiness to reward increased work effort, employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being (perceived organizational support, or POS). Accordingly, employees showed a consistent pattern of agreement with various statements concerning the extent to which the organization appreciated their contributions and would treat them favorably or unfavorably in differing circumstances (Eisenberger, Fasolo & Davis-LaMastro, 1990; Eisenberger et al., 1986; Shore & Tetrick, 1991; Shore & Wayne, 1993). Just as employees form global perceptions concerning their valuation by the organization, they develop general views concerning the degree to which supervisors value their contributions and care about their well-being (perceived supervisor support, or PSS; Kottke & Sharafinski, 1988). Because supervisors act as agents of the organization, who have responsibility for directing and evaluating subordinates' performance, employees would view their supervisor's favorable or unfavorable orientation toward them as indicative of the organization's support (Eisenberger et al., 1986; Levinson, 1965). Additionally, employees understand that supervisors' evaluations of subordinates are often conveyed to upper management and influence upper management's views, further contributing to employees' association of supervisor support with POS. Although over a dozen studies have reported positive relationships of POS with PSS (e.g., Hutchison, 1977a, 1997b; Kottke & Sharafinski, 1988; Malatesta, 1995; Rhoades, Eisenberger, & Armeli, 2001; Yoon, Han, & Seo, 1996; Yoon & Lim, 1999; Yoon & Thye, 2000) and related measures (e.g., Allen, 1995; Hutchison, Valentino, & Kirkner, 1998), little attention has been given to assessing the direction of causality between POS and PSS, the mechanisms responsible for this association, or the behavioral consequences of the POS–PSS relationship. Iverson defined coworker support as "the degree of consideration individuals receive from members of their social network" (p. 402). It may also be best to examine the impact of measures of coworker support on POS over a relatively short period of time. That is, POS should be examined in a relatively short period after coworker support is assessed. Friendships at work may provide a source of social contact, intimacy, and support with establishing an adult identity. In this respect, coworker emotional support is argued to meet individuals' needs beyond the immediate workplace. Developing friendships at work increases an employee's embedded ness, as leaving the organization would require the person to develop a new set of relationships elsewhere [(Mossholder, K. W., Settoon, R. P., & Henagan, S. C. (2005)].

LITERATURE REVIEW

On the basis of organizational support theory, findings of a positive relationship between PSS and POS have usually been interpreted to indicate that PSS leads to POS (e.g., Hutchison, 1997a;; Rhoades et al., 2001; Yoon et al., 1996; Yoon & Lim, 1999). Yoon and Thye (2000) suggested that causality might also occur in the reverse direction, with POS increasing PSS: employees' perception that the organization values their contribution and cares about their well-being might lead them to believe that supervisors, as agents of the organization, are favorably inclined toward them. A relationship between the initial value of one variable and changes in a second variable over time provides stronger causal evidence than is afforded by the simultaneous measurement of the two variables (Finkel, 1995). Because supervisors act as organizational agents in their treatment of subordinates, PSS should contribute to POS. The strength of this relationship would depend on the degree to which employees identify the supervisor with the organization (Malatesta, 1995) Supervisors who appear to be highly valued and well treated by the organization would be highly identified with the organization's basic character and would therefore strongly influence POS. Of course, an employee may attribute a supervisor's high perceived status to the organization's misperception of the supervisor's character (Levinson, 1965). Employees' perception of the status accorded their supervisor by the organization, and therefore the employees' belief that supervisor support also represents organizational support, would increase with employees' perceptions concerning (a) the organization's positive valuation of the supervisor's contributions and its concern about the supervisor's well-being, (b) the supervisor's influence in important organizational decisions, and (c) the autonomy and authority accorded the supervisor in his or her job responsibilities(Shore, L. M., & Shore, T. H. (1995). Malatesta found evidence for both relationships: PSS increased extra-role performance beneficial to supervisors, and PSS increased POS, which, in turn, led to greater extra-role performance beneficial to the organizationThe relational perspective posits that low-quality interpersonal relationships have negative organizational consequences, including high employee POS. In contrast, high-quality interpersonal relationships promote positive outcomes, such as greater employee retention (Uhl-Bien, Graen, & Scandura, 2000). Mossholder and colleagues (2005) argued that high-quality interpersonal relationships "enmesh individuals within a relational web, making them less susceptible to forces that could dislodge them from their organization"

(p. 608). When confronted with negative features in the work environment, high-quality interpersonal relationships serve as a buffer to help ensure that employees remain with the organization. Mossholder et al. argued that as individuals develop more extensive, high-quality relationships, their attachment to the organization increases and they become more embedded in the organization. Furthermore, it may be critical to distinguish between different aspects of coworker support. Beehr et al. (2000) articulated that coworker support can reflect instrumental support or emotional support. Instrumental support is task-focused with the aim of getting work accomplished or resolving work-related issues. By contrast, emotional support is person-focused, grounded in friendship and personal concern (Beehr et al., 2000). Beehr et al. (2000) argued that it is important to differentiate between these two types of support, yet this distinction has not been clearly made and capitalized upon in prior coworker support-turnover research. Iverson's (1999), Iverson and Pullman's (2000), and Mossholder et al.'s (2005) measures included aspects of instrumental and emotional support.

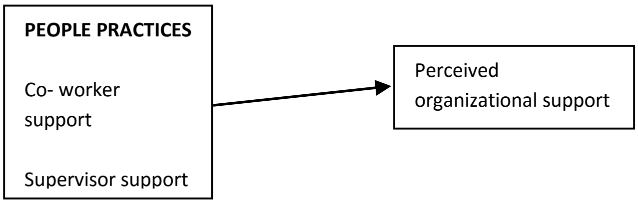
OBJECTIVES

1. To study the effect of co-worker support on perceived organizational support.
2. To study the effect of perceived supervisor support on Perceived organizational support.

DESIGN METHODOLOGY

MODEL

FIG. 1



RESEARCH DESIGN

This is a descriptive study which probes to find which of the people factors influence POS and to what extent. Random sampling method was used fro the study. Questionnaire was distributed to 134 teachers of private state syllabus schools in Dharapuram region and 123 were got back. The metrics and their sources are as follows.

METRICS AND SOURCE

TABLE 1

Dimension	No of items	Source
Co-worker support	5	Michael J. Tews, John W. Michel, and Jill E. Ellingson3,2006
Perceived supervisor support	7	Eisenberger, Stinglhamber, Vandenberge, Sucharski, and Rhoades, 2002; Eisenberger, Huntington, Hutchison, and Sowa, 1986
Perceived organizational support	17	Robert Eisenberger

The reliability of the questionnaire is as follows.

TABLE 2

Dimension	Cronbachs value
Co-worker support	0.86
Perceived supervisor support	0.73
Perceived organizational support	0.79

ANALYSIS

DESCRIPTIVE STATISTICS

The mean values of the items are as follows:

TABLE 3

Dimension	Mean
Co-worker support	2.27
Perceived supervisor support	2.80
Perceived organizational support	3.20

From the table 3 it is seen that co- worker support has a mean of 2.27 and perceived supervisor support has 2.80 where both the dimensions are just averagely rated. Where as perceived organizational support has a mean of 3.20.

CROSS TABULATION

TABLE 4: AGE Vs. NO OF SCHOOLS WORKED

			No of schools worked before joining this school					Total
			1.00	2.00	3.00	4.00	5.00	
age	2.00	Count	28	2	3	3	1	37
		% within age	75.7%	5.4%	8.1%	8.1%	2.7%	100.0%
	3.00	Count	32	18	11	4	1	66
		% within age	48.5%	27.3%	16.7%	6.1%	1.5%	100.0%
	4.00	Count	5	6	5	1	3	20
		% within age	25.0%	30.0%	25.0%	5.0%	15.0%	100.0%
Total		Count	65	26	19	8	5	123
		% within age	52.8%	21.1%	15.4%	6.5%	4.1%	100.0%

From the table 4 it is seen that amongst teachers within age group 21 to 30 ,75% of them have worked in only one school before joining current one. While in the age group of 31 to 40 nearing 27% have shifted 2 schools before joining the current one and 16% have worked in 3 schools earlier. It is very surprising to see that nearing 15 % of the teacher populations within age group 41 to 50 have shifted more than 4 schools before joining this.

HYPOTHESIS 1

Ho - There is no significant difference between the mean values of perceived supervisor support, perceived co-worker support and perceived organizational support.

Ha - There is significant difference between the mean values of perceived supervisor support, perceived co-worker support and perceived organizational support.

TABLE 5: ONE-SAMPLE TEST

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
PSS	35.193	122	.000	2.80488	2.6471	2.9627
PCWS	55.834	122	.000	3.37398	3.2544	3.4936
POS	31.459	122	.000	2.60976	2.4455	2.7740

From the table 5 it is seen that the significant values of all dimensions is .000 which is <.05 and hence we reject null hypothesis and accept alternate hypothesis stating that there exists a difference in the mean values of perceived organizational support, perceived supervisor support and perceived co –worker support.

HYPOTHESIS 2

Ho - There is no significant relationship between perceived supervisor support and Perceived organizational support.

Ha - There is significant relationship between perceived supervisor support and Perceived organizational support.

HYPOTHESIS 3

Ho - There is no significant relationship between perceived co-worker support and Perceived organizational support.

Ha - There is significant relationship between perceived co-worker support and Perceived organizational support.

CORRELATION

TABLE 6: CORRELATIONS

		PSS	PCWS	POS
PSS	Pearson Correlation	1	.789	.880
	Sig. (2-tailed)		.009	.000
	N	123	123	123
PCWS	Pearson Correlation	.789	1	.743
	Sig. (2-tailed)	.009		.001
	N	123	123	123
POS	Pearson Correlation	.880	.743	1
	Sig. (2-tailed)	.000	.001	
	N	123	123	123
**. Correlation is significant at the 0.01 level (2-tailed).				

From the table 6 it is seen that the significant values of all pairs are < .05 and hence for both the hypothesis 2 and 3 we reject null hypothesis and accept alternate hypothesis. Moreover Pearson correlation value for PSS and PCWS is .789 telling that a strong association exists between perceived supervisor support and perceived co –worker support. Similarly perceived co –worker support has a strong association with perceived organizational support with a value of .743 . there also exists a very strong association between perceived supervisor support and perceived organizational support with a value of .880.

FINDINGS

It is clear from the analysis that both the people practices perceived supervisor support and perceived co-worker support have a mean rating just above average telling that the teachers are not very much convinced with the support they receive from their colleagues as well from the principal. On a comparative basis they are convinced with the organizational support. More over it is seen that teachers with age group between 41 -50 have been shifting more number of schools than those with lesser age groups indicating that dissatisfaction with their principal or colleagues could have been a major reason behind them shifting schools. However it is also seen that by increasing the perception of support from colleagues and principal teacher's perception regarding organizational support would increase.

CONCLUSION

This study reveals that people practices have to be very rich in order to make the teachers perceive they are being cared for. The principal plays a major role not only in having a one to one professional relation with the teachers but also in binding the teachers together in seeing that a harmonious environment exists between teachers and he should be well talented to resolve any conflicts or politics between them and to engage them in activities that would increase cohesiveness between them. This study would be very useful for the school management and the principals in order to control teacher resignation and to build a positive perception for them. There is lot of scope for further research where other antecedents of perceived organizational support can be studied along with the behavioral outcomes of teachers.

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ISSUES AND TRENDS CHANGING SUPPLY CHAIN MANAGEMENT

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ABSTRACT
Until the dawn of 20th century business as well as distribution channel used the traditional delivery process for the experience and expertise dating back to the industrial revolution era. But the introduction of supply chain management brought up a new dimension to the whole delivery process. Supply chain management is a means through which the firms are engaged in creating, distributing, selling products, and can join forces to establish a supply network with an unbeatable competitive advantage and has emerged as one of the most powerful business improvement tools around. Supply chain finds its place in both services as well and manufacturing industry. The driver behind Supply Chain Management is to remove inefficiencies, excess costs and excess inventories from the supply pipeline. The present paper discusses the key issues responsible for effective Supply Chain Management and how to achieve maximum level of customer satisfaction. It also presents the recent trends changing Supply Chain Management process.

KEYWORDS
customer, issues, process, satisfaction, supply chain management (SCM).

INTRODUCTION
The term supply chain management was first coined by an American industry consultant in the early 1980s. However, the concept of supply chain in management, was of great importance long before in the early 20th century, especially by the creation of the assembly line. Supply chain management (SCM) is the management of a network of interconnected businesses involved in the provision of product and service packages required by the end customers in a supply chain. This concept is appearing in various firms and is moving into smaller organisations also. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption. In the wider view of supply chain thinking, these additional activities are now seen as part of the work needed to fulfill customer requests. It brings a systems approach to understanding and managing the different activities needed to coordinate the flow of products and services to best serve the ultimate customer.

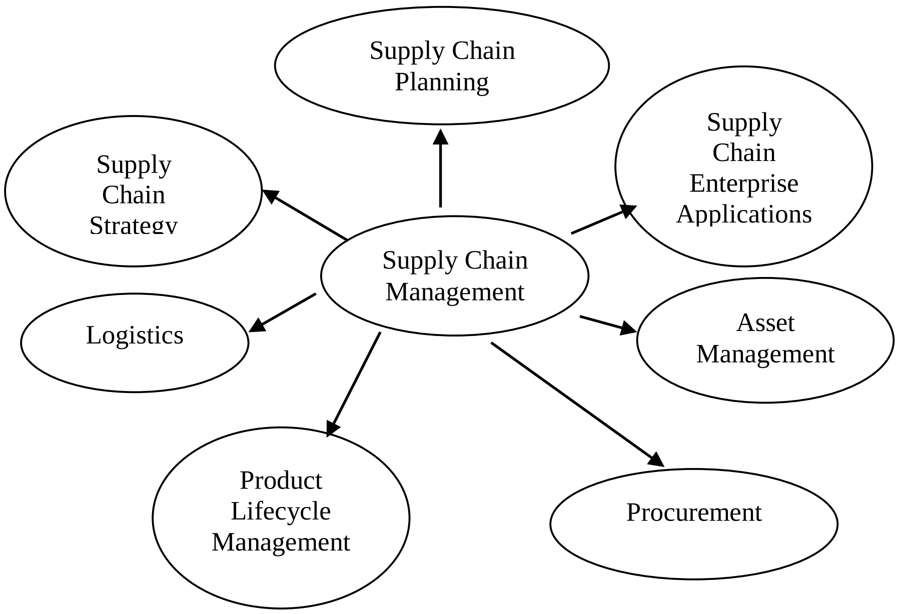
Lambert, Stock, and Ellram defined “A supply chain is the alignment of firms that bring products or services to market”. Chopra and Meindl defined “A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves”. Supply chain management is the coordination of production, inventory, location, and transportation among the participants in a supply chain to achieve the best mix of responsiveness and efficiency for the market being served.

Supply chain management should be an integral part of the company's drive and direction. SCM represents the way to customer retention and growth, competitive advantage and profitability. Successful supply chains have top management approval and support. Supply chain management can be viewed as a decision making process between strategy and operation. Thus supply chain is like a relay team within each team is more competitive and there needs to coordinate between the entire team for achieving results.

In the current competitive scenario supply chain management assumes a significant importance and calls for serious research attention, as companies are challenged with finding ways to meet ever-rising customer expectations at a manageable cost. To do so, businesses must search out which parts of their supply-chain process are not competitive, understand which customer needs are not being met, establish improvement goals, and rapidly implement necessary improvements.

The supply chain management process will help in proper coordination between the supplier and the customer. The process includes Supply chain planning; Supply chain Enterprise applications; Asset management; Procurement; Product lifecycle management; Logistics; and Supply chain strategy. A schematic diagram of the Supply chain management process is as shown in Figure 1:

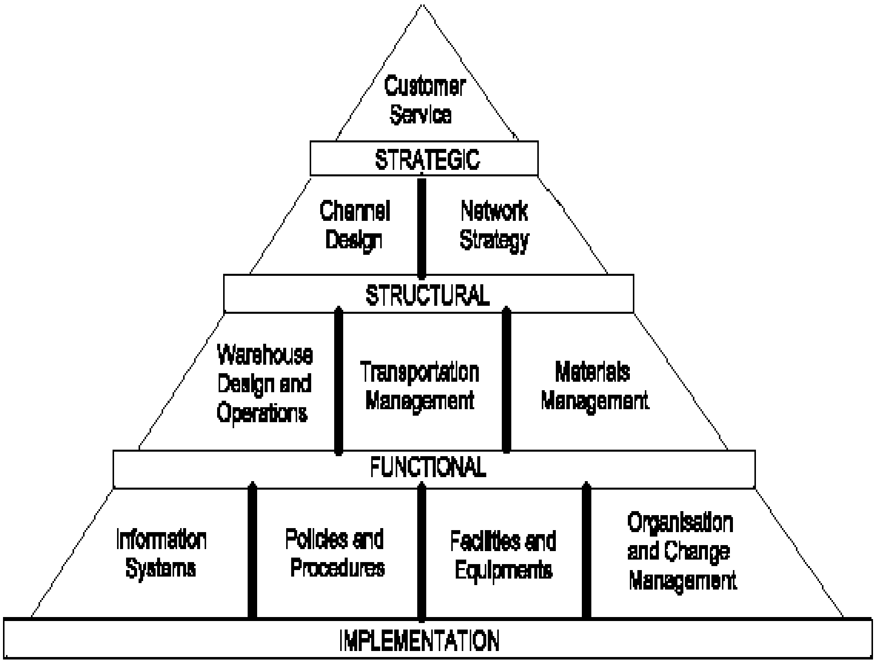
FIGURE 1: SUPPLY CHAIN MANAGEMENT PROCESS



ISSUES RELATED TO SUPPLY CHAIN MANAGEMENT

A framework to understand the various issues involved in SCM is provided by the pyramid structure for the SCM paradigm in Figure.2. The pyramid allows issues to be analysed on four levels:

FIGURE 2: SCM FRAMEWORK PYRAMID



Source: Based on work done by William C. Copacino

1. **Strategic Level:** At this level, it is important to know how SCM can contribute to the enterprises' basic value proposition to the customers. Important questions that are addressed at this level include:
   - What are the basic and distinctive service needs of the customers?
   - What can SCM do to meet these needs?
   - Can the SCM capabilities be used to provide unique services to the customers?
2. **Structural Level:** After the strategic issues are dealt with, the next level question(s) that should be asked are:
   - Should the organization market directly or should it use distributors or other intermediaries to reach the customers?
   - What should the SCM network look like?
   - What products should be sourced from which manufacturing locations?
   - How many warehouses should the company have and where should these be located?
   - What is the mission of each facility? etc.
3. **Functional Level:** This is the level where operational details are decided upon. Functional excellence requires that the optimal operating practices for transportation management, warehouse operations, and materials management (includes forecasting, inventory management, production scheduling, and purchasing) are designed. These strategies should keep in view the trade-offs that may need to be made for the overall efficiency of the system. Achieving functional excellence also entails development of a process-oriented perspective on replenishment and order fulfillment so that all activities involved in these functions can be well integrated.
4. **Implementation Level:** Without successful implementation, the development of SCM strategies and plans is meaningless. Supply chain managers must consider their information needs relative to decision support tools, application software's, data capture, and the system's overall structure. The important issues are organizational and information systems:

- Organizational issues centers on the overall structure, individual roles and responsibilities, and measurement systems needed to build an integrated operation.
- Information systems are "enablers" for supply chain management operations and therefore must be carefully designed to support the SCM strategy.

RECENT TRENDS CHANGING SUPPLY CHAIN MANAGEMENT

Many organisations use their supply chain to compete and gain market share. Technology and process upgrades at forward-thinking organisations clearly show that supply chain excellence is more widely accepted as an element of overall business strategy and that increases the customer's satisfaction. There are six key trends causing significant impact and change to supply chain process and performance.

DEMAND PLANNING

Demand Planning is a key input to the larger Sales and Operations Planning process and can have a significant positive impact on new product introductions, inventory planning and management, customer service, supply planning efficiency and sourcing strategies. Demand focused approach to planning can significantly improve demand planning and management efforts and help overall costs and customer service efforts.

The organisations may conduct an enterprise-wide internal demand review to gather information from all aspects of the organization. Goals are set to gain consensus on what will be sold each month for each product line or category and the resulting revenue. The success of any Demand Plan is having all stakeholders; including sales, marketing, finance, product development and supply chain agree upon a consensus Demand Plan. Organizations that focus part time on demand planning and forecasting efforts yield substandard results.

GLOBALIZATION

The business landscape is rapidly becoming more global due to improvements in communications. Globalization is dramatically impacting the way business is managed and transacted, even on the most local levels. Manufacturing, distribution, sourcing of materials, invoicing and returns have all been significantly impacted by the increased integration of a global customer and supplier base, and many companies find that existing processes and technology are not flexible enough for this new business environment.

The right Supply Chain Design is critical to managing the changes brought about by rapid globalization. A well thought-out Supply Chain Network Design can optimize the network and the flow of materials through the network. In doing so, network design captures the costs of the supply chain with a "total landed cost" perspective, and applies advanced mathematical technology to determine optimal answers to both strategic and tactical questions.

INCREASED COMPETITION AND PRICE PRESSURES

The price, product features and brand recognition were enough to differentiate many products in the marketplace. With the continued commoditization of many products, companies need better ways to distinguish themselves. The organisations can offset the trend to their supply chains in two ways:

- **Firstly**, they may look at ways to reduce cost and are creating a more efficient value chain to remain cost competitive.
- **Secondly**, they may look at ways they can provide value-added services to meet the demands of more sophisticated customers.

The organisations should not only look to their supply chain to drive cost improvement, but should increase capabilities as a means for staying competitive. Streamlining processes with better design, better collaboration across networks and new services will help your company stay competitive and strengthen relationships with your customers.

OUTSOURCING

As many organisations step back and examine their core competencies, some realize that outsourcing parts or all of a supply chain can be advantageous. With marketplace improvements around information media and systems; cost and quality of global manufacturing and distribution; and product design capabilities, companies are gaining additional synergies by outsourcing all or parts of their supply chain. There can be significant economic benefits from outsourcing all or part of your supply chain operation, but without the right systems, processes, or organizational management structure the risk to success can increase to frightening levels. The optimally outsourced supply chain, either in its entirety or just a component, relies heavily on:

- Superior supply chain network design
- Inclusion of that outsource partner in the information chain
- Establishment of control mechanisms to proactively monitor the various components of the supply chain and,
- Information systems to connect and coordinate the supply chain as seamlessly as possible.

SHORTENED AND COMPLEX PRODUCT LIFE CYCLES

Today in order to meet the needs of both customers and consumers, companies need more efficient product lifecycle management processes. This includes heavy emphasis on managing new product introduction, product discontinuation, design for manufacturability and leveraging across their entire product and infrastructure characteristics. When companies begin the process of introducing new products to market, they coordinate marketing, engineering, sales and procurement and develop sales forecasts to plan products in the pipeline. Without a formalized product lifecycle process the end result isn't always predictable.

One benefit of PLM processes and technology is helping companies design products that can share common operations, components or materials with other products, thereby reducing risks of obsolescence write offs, increasing cost leverage on the purchasing of key materials and ensuring that infrastructure investments are optimally utilized.

COLLABORATION BETWEEN SUPPLIERS AND CUSTOMERS

As supply chains continue to develop and mature, a move toward more intense collaboration between customers and suppliers has occurred. The level of collaboration goes beyond linking information systems to fully integrating business processes and organization structures across companies that comprise the full value chain. The ultimate goal of collaboration is to increase visibility throughout the value chain in an effort to make better management decisions and to ultimately decrease value chain costs.

With the right tools, processes and organizational structure in place, collaboration provides key people throughout the value chain with the information needed to make business-critical decisions with the best available information. The S&OP activity enables information systems to connect the value chain participants around key demand information, such as customer forecasts, and around key supply information, such as supplier inventories and capacities.

CONCLUSION

Supply chains encompass the companies and the business activities needed to design, make, deliver, and use a product or service. Businesses depend on their supply chains to provide them with what they need to survive and thrive. Assessing supply chain performance leads to identification of problems and opportunities. Having a strategy and measuring key parts are necessary to understand and take control of your supply chain. Put the process, people and technology in place to create competitive advantage, both for today and tomorrow. If you do not, a competitor will.

Supply chain success involves process, people and technology. It enables all participants to know what is required. This in turn provides agility to handle exceptions and to adapt to changes. Having those three elements is important to having metrics, ones that are useful across the organization. All three working together in a company provides coordinated, unified effort to use supply chain management as a driving force in customer satisfaction and in having competitive advantage, with service and productivity.

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FINANCIAL ANALYSIS OF CHHATTISGARH RENEWABLE ENERGY DEVELOPMENT AGENCY (CREDA)

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ABSTRACT

CREDA - Chhattisgarh State Renewable Energy Development Agency has been constituted on 25th May 2001 under the Department of Energy, Government of Chhattisgarh for implementation of various schemes pertaining to Renewable Energy sources and Energy Conservation activities. Broadly, the objective of CREDA is -"To Promote Renewable Energy for Energy Security and Energy Conservation Measures for Efficient Use of Energy Resources". My objective is to conduct the financial analysis of this organisation to find out its capital strength and long term solvency. All the financial statements, for the period of 2002 to 2012, have been collected and various ratios as per accounting standard have been calculated to reach to conclusions. The result of my analysis shows that in spite of more than 10 years of establishment, this organisation is not having any working capital of its own. The main contributories are the State Govt., Central Govt. and beneficiaries, who contributes in terms of grants and cost respectively. The amount received by the organisation is equal to its capital and revenue expenses. I would recommend that, it is very important for the organisation to generate working capital for a proper growth and development.

KEYWORDS

CREDA, financial analysis, solar energy, village electrification.

INTRODUCTION

Renewable sources of energy are one of the prime requirements of the world to generate energy. The Chhattisgarh State of India has taken a wide step to establish the consumption of renewable sources of energy in rural as well as urban areas by establishment of CREDA- Chhattisgarh Renewable Energy development Agency. This organisation was established in the year 2001 under the Ministry of Energy when the Chhattisgarh state was carved out of Madhya Pradesh. Since its establishment, CREDA did extensive work in the field of Renewable Energy focusing on rural areas and stand alone devices. It has implemented projects in the field of power generation from renewable energy and environment friendly sources. The basic sources of finance for its regular operation are the grants from State Govt., Central Govt and some recovery from beneficiaries. In concern to the growth and development of such prime sector, it is very important to analyse the financial strength of the organisation to increase its efficiency and sustainability .In the same context, The Income –expenditure A/c and the Balance Sheet of CREDA, for the year 2002 to 2011, has been collected for the purpose analysis through formulae based technique.

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. In other words, all those methods which are used by the researcher during the course of studying his research problem are termed as research methods.

In case of my research on the topic "**FINANCIAL ANALYSIS OF CHHATTISGARH RENEWABLE ENERGY DEVELOPMENT AGENCY (CREDA)**", it would be defined as **"Analytical research",** where I would be using the facts, figures and information's already available, and analyse them to make a critical evaluation of the material. My research methodology is totally based upon **secondary data** Collection and analysis. The period of study is from 2002 to 2011**.**

The classified data will be represented in tabulated forms followed by respective graphs. The comparisons would be presented in forms of graphical presentations and diagrams.

ANALYSIS

The sequence of analysis is presented as follows:

1. CHHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY'S FINANCIAL POSITION ANALYSIS

The analysis given below on Chhattisgarh State Renewable Energy Development Agency's financial state and activity efficiency is made for the period from 01.04.2002 to 31.03.2011 based on the financial statements data prepared according to International Financial Reporting Standards (IFRS).

1.1. STRUCTURE OF THE ASSETS AND LIABILITIES

TABLE NO. 1

Indicator	Value						Change for the period analysed	
	in *thousand INR*				% of the balance total		*thousand INR* (col.5-col.2)	± % ((col.5-col.2) : col.2)
	31.03.2002	31.03.2003 – 31.03.2009 (averaged)	31.03.2010	31.03.2011	at the beginning of the period analysed (31.03.2002)	at the end of the period analysed (31.03.2011)		
1	2	3	4	5	6	7	8	9
Assets								
1. Non-current assets	12,075	366,192	453,318	720,329	55.3	87.9	+708,253	+59.7 times
2. Current assets, total	9,765	41,574	90,087	99,523	44.7	12.1	+89,758	+10.2 times
3.Trade and other current receivables	408	245	–	–	1.9	–	-408	-100
4.Cash and cash equivalents	7,087	8,748,770	86,192	99,002	32.4	12.1	+91,915	+14 times
Equity and Liabilities								
1. Equity	1,772	6,057	7,939	8,276	8.1	1	+6,504	+4.7 times
2. Non-current liabilities	2,890	212,409	166,931	257,230	13.2	31.4	+254,339	+89 times
3. Current liabilities	17,178	189,299	368,536	554,347	78.7	67.6	+537,169	+32.3 times
Assets; Equity and Liabilities	**21,840**	**407,765**	**543,406**	**819,852**	**100**	**100**	**+798,012**	**+37.5 times**

On 31.03.2011, Chhattisgarh State Renewable Energy Development Agency's assets structure included a large amount of non-current assets (87.9%). The share of current assets equaled only 12.1% of the total balance. The assets went up from INR 21,840 thousand to INR 819,852 thousand (i. e. INR +798,012 thousand) quickly during the 9 years. The company's assets grew in parallel with equity (by +4.7 times for the entire period analysed). Growth of the equity value is a factor which positively describes the dynamics of Chhattisgarh State Renewable Energy Development Agency's financial state.

The total growth of Chhattisgarh State Renewable Energy Development Agency's assets value is mainly connected with the growth value of the following assets (amount of change and percentage of this change relative to the total assets growth are shown below):

- Investment accounted for using equity method – INR 487,619 thousand (60.9%)
- Investments in subsidiaries, joint ventures and associates – INR 110,500 thousand (13.8%)
- Non-current inventories – INR 103,581 thousand (12.9%)
- Cash and cash equivalents – INR 91,915 thousand (11.5%)

The most significant growth of sources of finance ("Equity and Liabilities") is seen on the following rates (the percentage from total equity and liabilities change is shown in brackets):

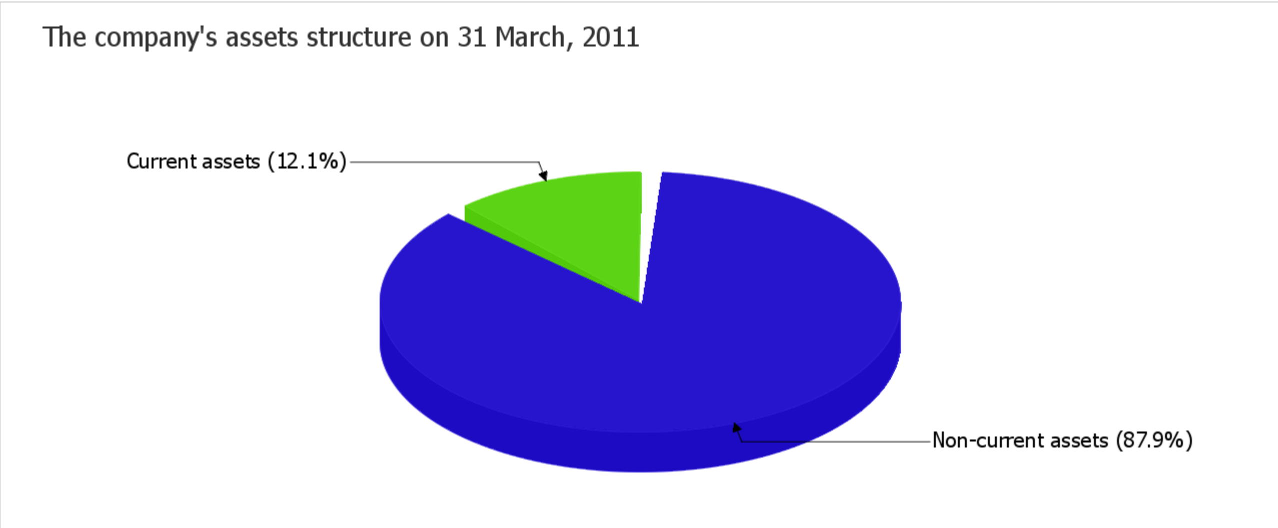
- Trade and other current payables – INR 537,169 thousand (67.3%)
- Other long-term financial liabilities – INR 254,339 thousand (31.9%)

Negative change in the item "Other current financial assets", which was INR -1,749 thousand during the whole period analysed, did not allow the total assets of the company to increase to a greater degree.

Correlation of basic asset groups is demonstrated in the chart below.

A decrease in the current receivables was INR 408 thousand during the entire period analysed.

FIGURE NO. 1: THE ASSET STRUCTURE OF CREDA AS ON 31.03.2011



1.2. NET ASSETS (NET WORTH)

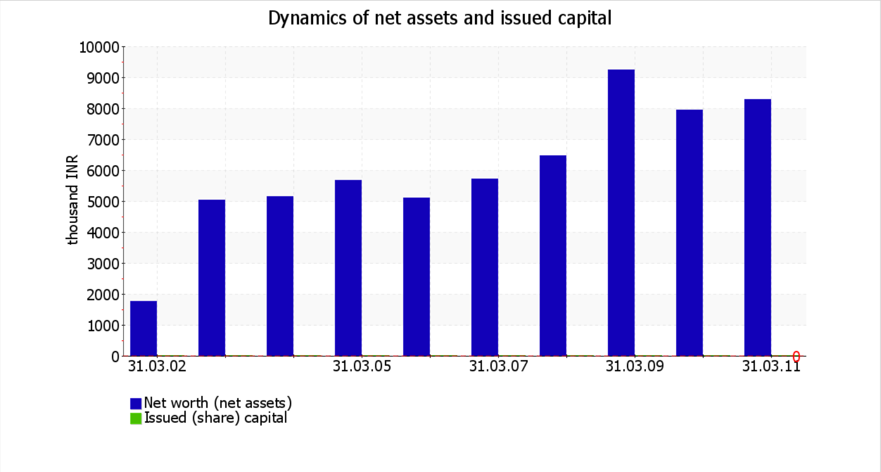
TABLE NO. 2

Indicator	Value						Change	
	in *thousand INR*		% of the balance total				*thousand INR* (col.3-col.2),	%, ((col.3 - col.2) : col.2)
	at the beginning of the period analysed (31.03.2002)	at the end of the period analysed (31.03.2011)	31.03.2002	31.03.2003 – 31.03.2009 (averaged)	31.03.2010	31.03.2011		
1	2	3	4	5	6	7	8	9
1. Net tangible assets	1,772	8,276	8.1	1.8	1.5	1	+6,504	+4.7 times
2. Net assets (Net worth)	1,772	8,276	8.1	1.8	1.5	1	+6,504	+4.7 times
3. Issued (share) capital	–	–	–	–	–	–	–	–
4. Difference between net assets and Issued (share) capital (line 2 - line 3)	1,772	8,276	8.1	1.8	1.5	1	+6,504	+4.7 times

The net tangible assets went up rapidly by 4.7 times and equaled INR 8,276 thousand for the last 9 years. In this case, Chhattisgarh State Renewable Energy Development Agency has no goodwill or other intangible assets. This is why amounts of net worth and net tangible assets are equal on 31 March, 2011.

The positive net worth indicates at least a satisfactory financial condition of the company. It means that some property will belong to their owners even after meeting of all its liabilities. The increase in the net worth took place in the main part of the period.

FIGURE NO. 2: DYNAMICS OF NET ASSETS AND ISSUED CAPITAL OF CREDA



1.3. FINANCIAL SUSTAINABILITY ANALYSIS

1.3.1. KEY RATIOS OF THE COMPANY'S FINANCIAL SUSTAINABILITY

TABLE NO. 3

Ratio	Value				Change (col.5-col.2)	Description of the ratio and its recommended value
	31.03.2002	31.03.2003 – 31.03.2009 (averaged)	31.03.2010	31.03.2011		
1	2	3	4	5	6	7
Debt-to-equity ratio (financial leverage)	11.33	66.41	67.45	98.07	+86.74	A debt-to-equity ratio is calculated by taking the total liabilities and dividing it by shareholders' equity. It is the key financial ratio and used as a standard for judging a company's financial standing. Normal value: 1.5 or less (optimum 0.43-1).
Debt ratio (debt to assets ratio)	0.92	0.98	0.99	0.99	+0.07	A debt ratio is calculated by dividing total liabilities (i.e. long-term and short-term liabilities) by total assets. It shows how much the company relies on debt to finance assets (similar to debt-to-equity ratio). Acceptable value: 0.6 or less (optimum 0.3-0.5).
Long-term debt to Equity	1.63	35.67	21.03	31.08	+29.45	This ratio is calculated by dividing long-term (non-current) liabilities by equity.
Non-current assets to Net worth	6.81	60.72	57.1	87.04	+80.23	This ratio is calculated by dividing long-term (non-current) liabilities by net worth (equity) and measures the extent of a company's investment in low-liquidity non-current assets. This ratio is important for comparison analysis because it's less dependent on industry (structure of company's assets) than debt ratio and debt-to-equity ratio. Normal value: 1.25 or less.
Capitalization ratio	0.62	1.01	0.95	0.97	+0.35	Calculated by dividing non-current liabilities by the sum of equity and non-current liabilities.
Fixed assets to Net worth	0.97	1	1	1	+0.03	This ratio indicates the extent to which the owners' cash is frozen in the form of fixed assets, such as property, plant, and equipment, investment property and non-current biological assets. Normal value: 0.75 or less.
Current liability ratio	0.86	0.5	0.69	0.68	-0.18	Current liability ratio is calculated by dividing non-current liabilities by total (i.e. current and non-current) liabilities.

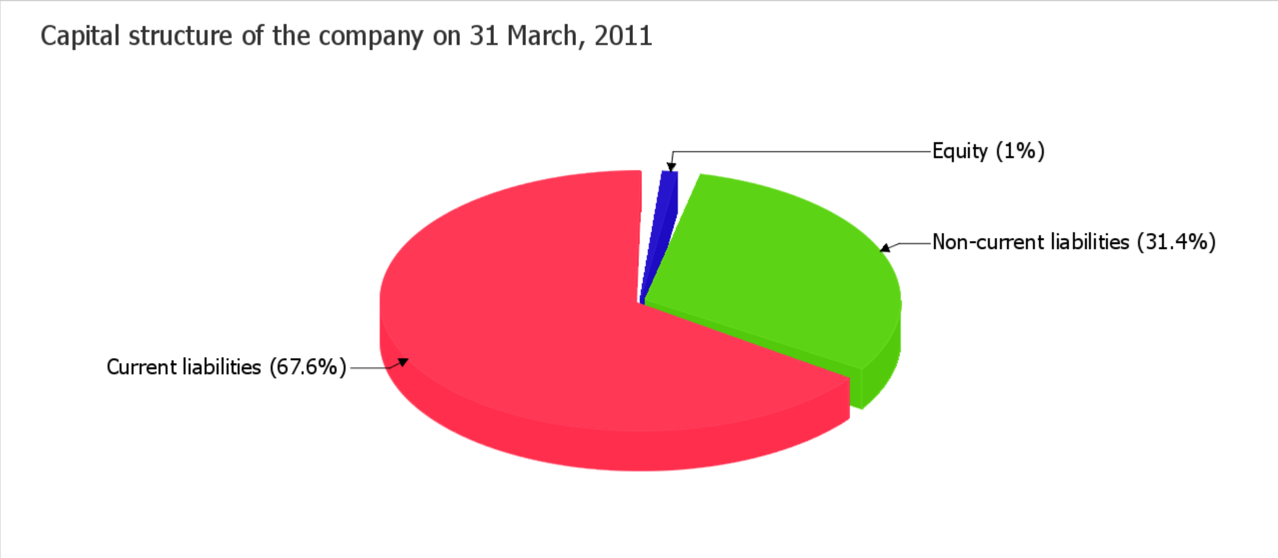
The debt-to-equity ratio and debt ratio are the main coefficients describing financial stability. The ratios are similar in their meaning and indicate a relationship between two main sources of capital: equity and borrowed capital. The difference between the ratios is that the first one is calculated as a relationship of the borrowed capital (liabilities) to the equity, while the second ratio is calculated as a relationship of the liabilities to the overall capital (i.e. the sum of equity and liabilities).

On 31.03.2011, the debt-to-equity was 98.07. The debt ratio was 0.99 on the last day of the period analysed. For the whole period analysed, it was seen that there was a marked increase in the debt ratio, which showed 0.07.

The value of the debt ratio for Chhattisgarh State Renewable Energy Development Agency indicates an excessive percentage of liabilities at the end of the period, which equaled 99% of total capital. It is believed that liabilities should not be more than 60%. If not, dependence from creditors increases too much and the financial stability of the company suffers. When the structure of capital is normal, the debt ratio is 0.6 or less (optimum 0.3-0.5). The values of the debt ratio were not acceptable during the whole of the analysed period.

The structure of the company's capital is shown in the chart below:

FIGURE NO. 3: CAPITAL STRUCTURE OF THE COMPANY ON 31ST MARCH, 2011

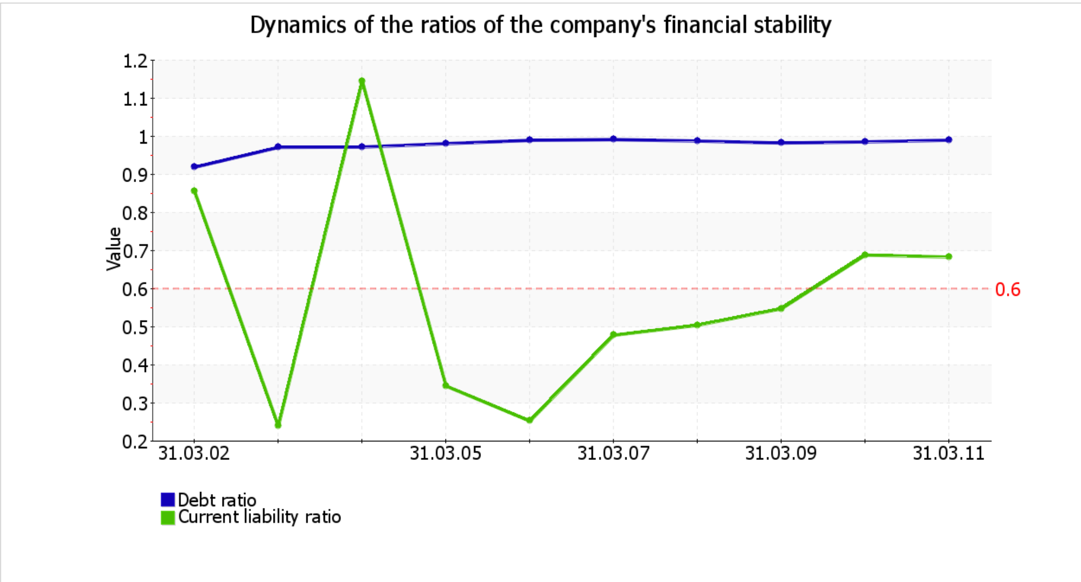


According to common rules, non-current investments should be made, in the first place, with the help of the most stable source of financing, i.e. with the help of own capital (equity). The non-current assets to Net worth ratio show if this rule is followed. During the 9 years, it was seen that there was an extreme growth in the ratio of **80.23** (to 87.04). On 31 March, 2011, the ratio has very negative value.

The structure of liabilities of Chhattisgarh State Renewable Energy Development Agency by maturity dates appears in the following way: non-current liabilities make about one third, while current liabilities make two thirds respectively of total liabilities of the company. It is demonstrated with the current liability ratio, which is equal to 0.68 on 31 March, 2011.

The following chart demonstrates the dynamics of the debt and current liability ratios of Chhattisgarh State Renewable Energy Development Agency.

FIGURE NO. 4: DYNAMICS OF THE RATIOS OF THE COMPANY'S FINANCIAL STABILITY



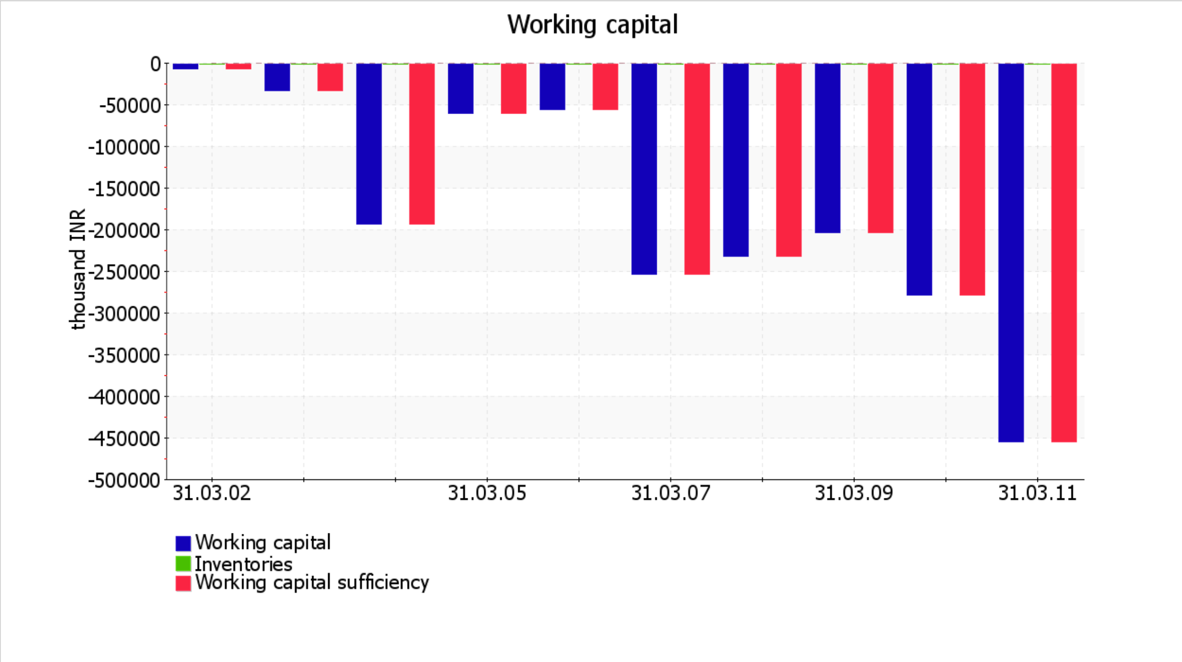
1.3.2. WORKING CAPITAL ANALYSIS

TABLE NO. 4

Indicator	Value				Change for the period analysed	
	31.03.2002	31.03.2003 – 31.03.2009 (averaged)	31.03.2010	31.03.2011	(col.5-col.2)	% [(col.5-col.2) : col.2]
1	2	3	4	5	6	7
1. Working capital (net working capital), thousand INR	-7,413	-147,726	-278,448	-454,824	-447,410	↓
2. Inventories, thousand INR	–	–	–	–	–	–
3. Working capital sufficiency (1-2), thousand INR	-7,413	-147,726	-278,448	-454,824	-447,410	↓
4. Inventory to working capital ratio (2:1) Acceptable value: 1 or less.	–	–	–	–	–	X

Chhattisgarh State Renewable Energy Development Agency has no working capital at the end of the period analysed (the amount has a negative value of INR -454,824 thousand). It was caused by exceeding the current liabilities by the sum of the current assets of the company. Under these circumstances, comparison of working capital with inventories makes no sense. It is deemed to be normal when the inventory to working capital ratio makes not less than 1.

FIGURE NO. 5: WORKING CAPITAL



1.4. LIQUIDITY ANALYSIS

Liquidity related ratios are one of the most widespread indicators of a company's solvency. The current ratio shows the capacity of a company to meet current liabilities with all available current assets. Quick ratio describes solvency in the near future. Cash ratio shows if there is enough means for uninterrupted execution of current transactions. Current ratio, quick ratio and cash ratio for Chhattisgarh State Renewable Energy Development Agency are calculated in the following table.

TABLE NO. 5

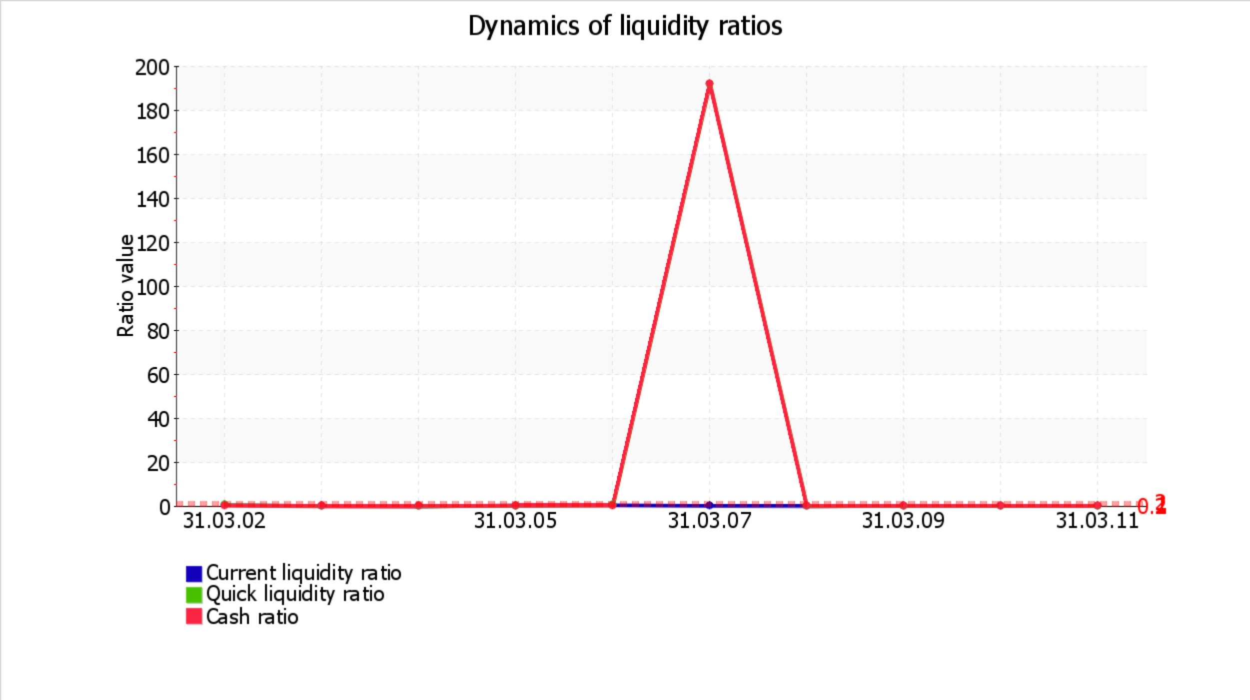
Liquidity ratio	Value				Change	Description of the ratio and its recommended value
	31.03.2002	31.03.2003 – 31.03.2009 (averaged)	31.03.2010	31.03.2011	(col.5 - col.2)	
1	2	3	4	5	6	7
1. Current ratio (working capital ratio)	0.57	0.25	0.24	0.18	-0.39	The current ratio is calculated by dividing current assets by current liabilities. It indicates a company's ability to meet short-term debt obligations. Acceptable value: no less than 2.
2. Quick ratio (acid-test ratio)	0.57	27.67	0.24	0.18	-0.39	The quick ratio is calculated by dividing liquid assets (cash and cash equivalents, trade and other current receivables, other current financial assets) by current liabilities. It is a measure of a company's ability to meet its short-term obligations using its most liquid assets (near cash or quick assets). Normal value: 1 or more.
3. Cash ratio	0.41	27.64	0.23	0.18	-0.23	Cash ratio is calculated by dividing absolute liquid assets (cash and cash equivalents) by current liabilities. Acceptable value: no less than 0.2.

The current ratio was 0.18 at the end of the period analysed. For the period reviewed (from 31 March, 2002 to 31 March, 2011), the current ratio quickly went down (-0.39). The value of the ratio is unacceptable and lies in the area of critical values on the last day of the period analysed. The values of the current ratio were not acceptable during the whole of the analysed period.

On 31 March, 2011, the quick ratio equaled 0.18. The quick ratio quickly fell (by 0.39) during the entire period reviewed. But if a linear trend is drawn, it will be seen that an upward trend was seen as an average during the period. During the evaluated period, both increase and decrease in the ratio were verified; the maximum value was 192.21, the minimum one was 0.05. The value of the quick ratio is unacceptable and lies in the area of critical values on the last day of the period analysed (31.03.2011). This means, Chhattisgarh State Renewable Energy Development Agency has either too many current liabilities or not enough liquid assets to satisfy the mentioned liabilities.

The value of the third ratio, the cash ratio, similar to the two previous ratios, does not lie in the normal range on 31 March, 2011. Chhattisgarh State Renewable Energy Development Agency is observed to have a deficit of cash and cash equivalents to meet current liabilities.

FIGURE NO. 6: DYNAMICS OF LIQUIDITY RATIO



In summary, all three liquidity related ratios negatively describe the financial position of Chhattisgarh State Renewable Energy Development Agency from the point of view of solvency.

2. FINANCIAL PERFORMANCE

2.1. OVERVIEW OF THE FINANCIAL RESULTS

The table below gives information about the main financial results of Chhattisgarh State Renewable Energy Development Agency's activities during the period reviewed (31.03.02–31.03.11).

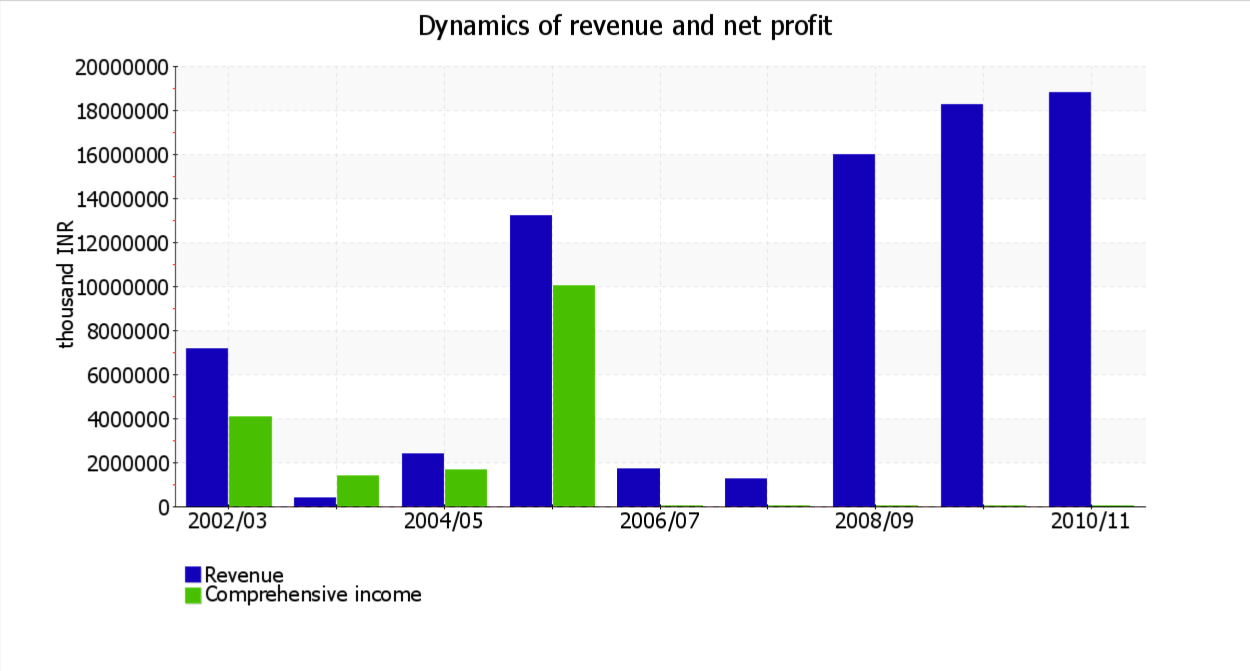
TABLE NO. 6

Indicator	Value, *thousand INR*				Change		Average annual value, *thousand INR*
	2002/03	2003/04 – 2008/09 (averaged)	2009/10	2010/11	*thousand INR* (col.5 - col.2)	± % (5-2) : 2	
1	2	3	4	5	6	7	8
1. Revenue	7,154,206	5,816,290	18,229,388	18,803,843	+11,649,637	+162.8	8,787,242
2. Cost of sales	–	–	–	–	–	–	–
3.*Gross profit* (1-2)	7,154,206	5,816,290	18,229,388	18,803,843	+11,649,637	+162.8	8,787,242
4. Other income and expenses, except Finance costs	-3,097,537	-3,632,345	-18,229,388	-18,803,843	-15,706,306	↓	-6,880,538
5. *EBIT* (3+4)	4,056,669	2,183,945	–	–	-4,056,669	-100	1,906,705
6. Finance costs	–	–	–	–	–	–	–
7. Income tax expense (from continuing operations)	–	–	–	–	–	–	–
8. *Profit (loss) from continuing operations* (5-6-7)	4,056,669	2,183,945	–	–	-4,056,669	-100	1,906,705
9. Profit (loss) from discontinued operations	–	–	–	–	–	–	–
10. Profit (loss) (8+9)	**4,056,669**	**2,183,945**	**–**	**–**	**-4,056,669**	**-100**	**1,906,705**
11. Other comprehensive income	–	–	–	–	–	–	–
12. Comprehensive income (10+11)	4,056,669	2,183,945	–	–	-4,056,669	-100	1,906,705

For the last year, the revenue was INR 18,803,843 thousand. For the period analysed (31.03.02–31.03.11), the revenue was seen to grow sharply by 162.8%. During the reviewed period, multidirectional changes in the revenue (both growth and fall) were verified; the rate of values were in the range of INR 365,308 thousand to INR 18,803,843 thousand. The change in revenue is demonstrated on the chart. During the period 01.04.2010–31.03.2011, the gross profit was INR 18,803,843 thousand. The gross profit swiftly increased (by 162.8%) for the period reviewed (31.03.02–31.03.11).

During the year 2010/11, the company posted a gross profit and earnings before interest and taxes (EBIT), which was INR 0 thousand. Chhattisgarh State Renewable Energy Development Agency reported to have no comprehensive income for the last year.

FIGURE NO. 7



2.2. PROFITABILITY RATIOS

TABLE NO. 7

Profitability ratios	Value in %				Change
	2002/03	2003/04 – 2008/09 (averaged)	2009/10	2010/11	(col.5 - col.2)
1	2	3	4	5	6
1. Gross margin.	100	100	100	100	–
2. Return on sales (operating margin).	56.7	87.3	–	–	-56.7
3. Profit margin.	56.7	87.3	–	–	-56.7
Reference: Interest coverage ratio (ICR). Normal value: 1.5 or more.	–	–	–	–	–

The gross margin was equal to 100% during the last year, which corresponds to the gross margin for the year 2002/03.

Profitability calculated using EBIT (return on sales) deserves more attention. During the analysed period, multidirectional changes in the return on sales (ROS) (both increase and decrease) were verified; the maximum value was 378.1%, the minimum one was 0. For the last year, the return on sales was 0 (or 0% per annum), and profitability calculated by net profit was 0% per annum.

FIGURE NO. 8: DYNAMICS OF PROFIT RATIO

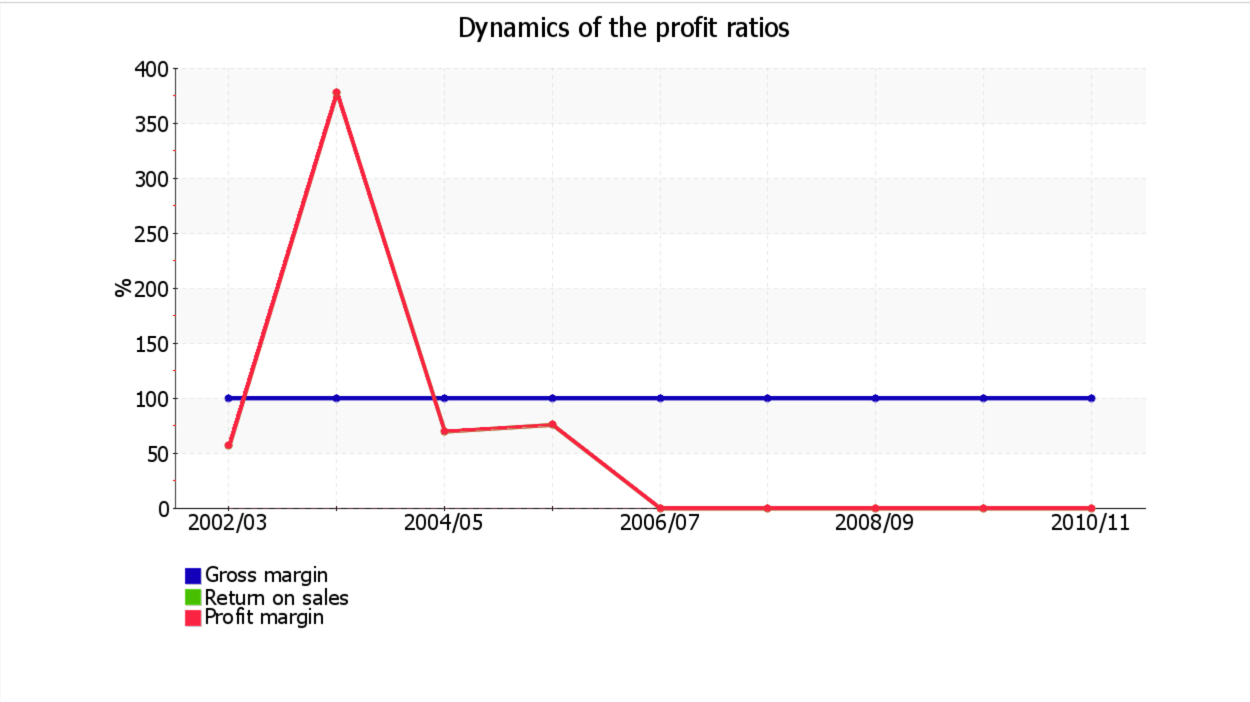


TABLE NO. 8

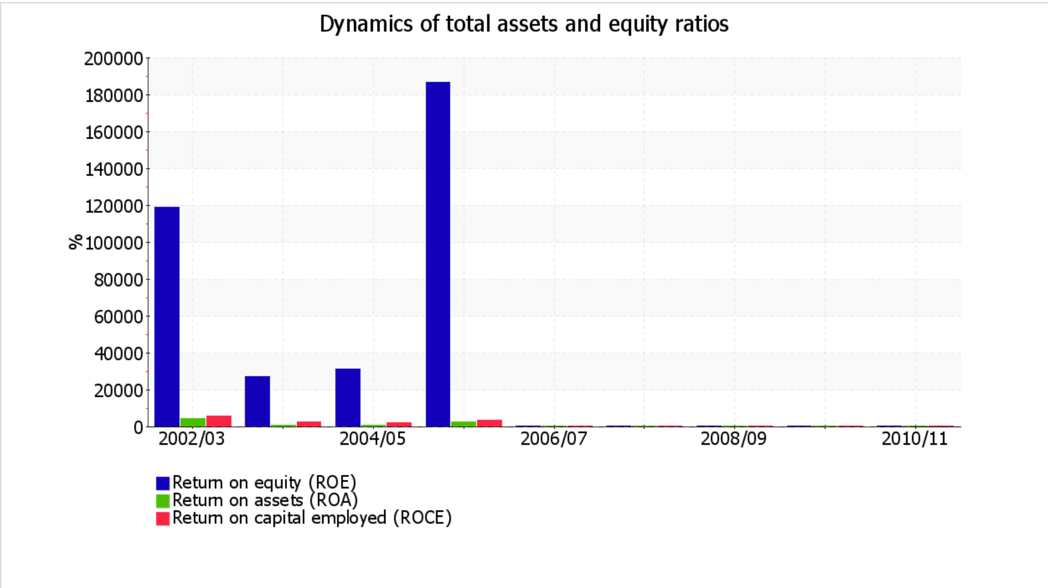
Profitability ratios	Value, %				Change	Description of the ratio and its reference value
	2002/03	2003/04 – 2008/09 (averaged)	2009/10	2010/11	(col.5 - col.2)	
1	2	3	4	5	6	7
Return on equity (ROE)	119,036.3	40,732.3	–	–	-119,036.3	ROE is calculated by taking a year's worth of earnings (net profit) and dividing them by the average shareholder equity for that period, and is expressed as a percentage. It is one of the most important financial ratios and profitability metrics. Acceptable value: 12% or more.
Return on assets (ROA)	4,148.1	675	–	–	-4,148.1	ROA is calculated by dividing net income by total assets, and displayed as a percentage. Normal value: 6% or more.
Return on capital employed (ROCE)	5,877.4	1,325.5	–	–	-5,877.4	ROCE is calculated by dividing EBIT by capital employed (equity plus non-current liabilities). It indicates the efficiency and profitability of a company's capital investments.

The return on assets amounted to zero for the year 2010/11. For the year 2010/11 in comparison with the same period of the prior financial year, the return on assets rapidly dropped (by 4,148.1%), in addition, tendency of the return on assets to fall is also proven by an average (linear) trend. During the evaluated period, the return on assets changed multidirectional; the range of values was from 0 to 4,148.1%. At the beginning of the analysed period, the return on assets corresponded to the norm, but later the situation changed.

A key indicator of business profitability is the return of equity (ROE), i.e. return from money invested by the owners. The profitability of the owners' investments in Chhattisgarh State Renewable Energy Development Agency's assets was 0% per annum during the last year. Moreover, if the percentage of the own capital (equity) in the total capital were normal, the rate would be a lower (on the last day of the period analysed percentage of own capital was 1%, when the acceptable value is not less than 40%).

The chart below shows changes of the main rates of return on assets and equity of the company during the entire period analysed.

FIGURE NO. 9: DYNAMICS OF TOTAL ASSETS AND EQUITY RATIO



2.3. ANALYSIS OF THE BUSINESS ACTIVITY (TURNOVER RATIOS)

To assess Chhattisgarh State Renewable Energy Development Agency's business activity, the table below provides the main rates of turnover: receivables, inventory, current and total assets turnovers; accounts payable and capital turnovers of the company. Turnover ratios have strong industry specifics and depend on activity. This is why an absolute value of the ratios does not permit making a qualitative assessment. When assets turnover ratios are analysed, an increase in ratios (i.e. velocity of circulation) and a reduction in circulation days are deemed to be positive dynamics. There is no well-defined interaction for accounts payable and capital turnover. In any case, an accurate conclusion can only be made after the reasons that caused these changes are considered.

TABLE NO. 9

Turnover ratio	Value, days				Ratio 2002/03	Ratio 2010/11	Change, days (col.5 - col.2)
	2002/03	2003/04 – 2008/09 (averaged)	2009/10	2010/11			
1	2	3	4	5	6	7	8
Receivables turnover (days sales outstanding) (average trade and other current receivables divided by average daily revenue*)	<1	<1	0	0	16,286.5	–	–
Accounts payable turnover (days payable outstanding) (average current payables divided by average daily purchases)	–	0	–	–	–	–	–
Inventory turnover (days inventory outstanding) (average inventory divided by average daily cost of sales)	–	0	–	–	–	–	–
Asset turnover (average total assets divided by average daily revenue)	5	89	11	13	73.2	27.6	+8
Current asset turnover (average current assets divided by average daily revenue)	<1	7	2	2	872.9	198.3	+2
Capital turnover (average equity divided by average daily revenue)	<1	2	<1	<1	2,099.3	2,319.4	–
Reference: Cash conversion cycle (days sales outstanding + days inventory outstanding - days payable outstanding)	–	*0*	–	–	x	x	–

* Calculation in days. Ratio value is equal to 365 divided by days outstanding.

According to the above table, the average collection period (Days Sales Outstanding), calculated based on the data for the year 2010/11, was 0 days, while average repayment period for credit debts (Days Payable Outstanding) was 0 days. The rate of asset turnover means that Chhattisgarh State Renewable Energy Development Agency gains revenue equal to the sum of all the available assets every 63 days (on average for the period reviewed).

CONCLUSION

The main financial state indicator values and Chhattisgarh State Renewable Energy Development Agency's activity results are classified by qualitative assessment according to the results of the analysis during the last 9 years and are given below.

The following characteristic *positively describes* the financial state – positive net worth (i.e. the company has equity of INR 8,276 thousand).

Financial characteristics with *normal or close to normal values* are indicated below:

- The equity growth during the entire period analysed did not exceed the total rate of assets value growth;
- Zero earnings before interest and taxes (ebit) for the last year.

The following characteristics describe the Chhattisgarh State Renewable Energy Development Agency's financial state from a *negative* point of view:

- The debt ratio has an unsatisfactory value (0.99) caused by a high percentage of liability, (99% of total capital of the company);
- The cash ratio is equal to 0.18 on the last day of the period analysed (31.03.2011) (a low cash at hand required for current payments);
- Return on equity (roe) showed during the period from 01.04.2010 to 31.03.2011 only 0% per annum even despite a low percentage of the own capital (equity);
- Low return on total assets for the period 01.04.2010–31.03.2011 (which was 0% per annum);
- Zero income from financial and operational activities (comprehensive income) for the period from 01.04.2010 to 31.03.2011.

The following characteristics describe the financial state as *critical*:

- The value of the non-current assets to net worth ratio (87.04) is atypical and is in the area of critical values on the last day of the period analysed;
- The current ratio (0.18) is significantly lower than the standard value (2);
- Liquid assets (current assets minus inventories) are certainly not enough to meet current liabilities (quick ratio is equal to 0.18, while the acceptable value is 1);
- No working capital (current liabilities exceed current assets).

RECOMMENDATIONS/SUGGESTIONS

As it has been concluded above the financial position as well as the performance is not satisfactory in terms of growth, development and sustainability.

The following points are recommended:

- The published accounts shows that the organisation is totally dependent on Govt. financial assistance so it is recommended that they have to strengthen their financial condition by generating their own working capital.
- The capital of the organisation must be contributed by the stakeholders. This will increase the accountability of the organisation.
- The organisation is lacking in handling the finance management professionally, which must be taken into serious consideration.
- The way of preparation of financial statements in the initial years of establishment of organisation was not according to the norms of basic accounting principles (such as no opening capital etc.), due care should be taken that such principle error is not repeated.
- Though it seems that CREDA is a non-profit taking organisation but to grow and develop with efficiency and sustainability, the organisation must begin with new capital structure so that the burden of Govt. expenditure on grants and subsidies can be reduced.

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E-COMMERCE: THE INNOVATIVE FACE OF MARKET

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ABSTRACT

Prior to the development of e-commerce, the process of marketing and selling goods was a mass-marketing and sales force-driven process. Consumers were viewed as passive targets of advertising "campaigns" and branding blitzes intended to influence their long-term product perceptions and immediate purchasing behaviour. Selling was conducted in well-insulated "channels." Consumers were considered to be trapped by geographical and social boundaries, unable to search widely for the best price and quality. But with the advent of E-commerce the marketers and the consumers have come closer; the market has shrunk to a size of a computer and become omnipresent. Consumers are given due importance and now they can shop at their convenience with just a click. This paper highlights the challenges being faced by the e commerce players and the innovations which they adopted to have a sustainable growth.

KEYWORDS

e-commerce, innovation, players, challenges.

E-COMMERCE

Over the last two decades, rising internet and mobile phone penetration has changed the way we communicate and do business. The Internet has also changed the way people buy and sell goods and services. Online retail or e-commerce is transforming the shopping experience of customers. *E-commerce* (electronic *commerce* or EC) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the Internet. These business transactions occur business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business. This sector has seen unprecedented growth especially in the last few years. The adoption of technology is enabling the e-commerce sector to be more reachable and efficient. Devices like smartphones, tablets and technologies like 3G, 4G, Wi-Fi and high speed broadband is helping to increase the number of online customers. Banks and other players in e-commerce ecosystem are providing a secured online platform to pay effortlessly via payments gateways. From a buzzword to a current-day reality, e-commerce in India has been experiencing remarkable growth, successfully changing the way people transact. People today can shop literally everywhere within minutes, be it their workstations or homes, and most importantly, at any time of the day at their leisure. The online market space in the country is burgeoning in terms of offerings ranging from travel, movies, hotel reservations and books to the likes of matrimonial services, electronic gadgets, fashion accessories and even groceries. India is home to 3,311 e-commerce hubs, 1,267 rural hubs, 391 export hubs and2,217 import hubs.

ADVANTAGES OF E-COMMERCE

E-commerce overcome Geographical Limitations

If you have a physical store, you are limited by the geographical area that you can service. With an ecommerce website, the whole world is your playground.

Gain New Customers With Search Engine Visibility

Physical retail is driven by branding and relationships. In addition to these two drivers, online retail is also driven by traffic from search engines. It is not unusual for customers to follow a link in search engine results, and land up on an ecommerce website that they have never heard of.

E-commerce Lower the Costs

One of the most tangible positives of ecommerce is the lowered cost. A part of these lowered costs could be passed on to customers in the form of discounted prices.

Locate the Product Quicker

It is no longer about pushing a shopping cart to the correct aisle, or scouting for the desired product. On an ecommerce website, customers can click through intuitive navigation or use a search box to immediately narrow down their product search

Eliminate Travel Time and Cost

It is not unusual for customers to travel long distances to reach their preferred physical store. Ecommerce allows them to visit the same store virtually, with a few mouse clicks.

FIG. 1

INNOVATION

Today, the world's societies face severe economic and social challenges. In early years the economic downturn has led to reduced potential output growth, rising unemployment and soaring public debt. To recover, countries need to find new and sustainable sources of growth. Future growth must therefore increasingly come from innovation-induced productivity growth.

Innovation is the introduction of a new or significantly improved product, process or method holds the key to boosting productivity. The process of translating an idea or invention into a good or service that creates value or for which customers will pay.

To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need. Innovation involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products. In business, innovation often results when ideas are applied by the company in order to further satisfy the needs and expectations of the customers. In a social context, innovation helps create new methods for alliance creation, joint venturing, flexible working hours. Innovation is thus essential if countries and firms are to recover from the economic downturn and thrive in today's highly competitive and connected global economy. It is a powerful engine for development and for addressing social and global challenges. And it holds the key, both in advanced and emerging economies, to employment generation and enhanced productivity growth through knowledge creation and its subsequent application and diffusion.

INNOVATIVE PRACTICES IN E-COMMERCE

Display of Products and Services - Having beautiful photography doesn't mean you need to hire a really expensive photographer, but it does mean a time investment in capturing the right photos of your various products or services to help incite people to look through your offerings and buy. Instead 360 degree view is being used to display the products.

Personalisation - Websites allow retailers to collect data about their customers and behaviors. Retailers use this data to offer customers what they think they want. Amazon is perhaps the most well known for its ability to present data driven personalized offerings to the customers. Infact amazon was labelled as "People who bought this also bought that". Now it has evolved various such sections like – inspired by your shopping trends, More items to consider, top picks for you and so on. This allows consumer to search products easily as the sites segregates the products as per the likings of the consumer which gives the personalized touch while making the buy.

S-commerce - Social media is becoming more influential in the ecommerce world. Consumers research their purchase via their networks on social sites before committing. Social platforms are beginning to integrate in to the purchasing journey with Facebook and twitter implementing a buy button to allow consumer to make a purchase directly from their facebook account via E commerce sites. As amazon does it for twitter users. This enhances the probability of purchase on the same instant.

Ship to store - Shipping cost is one of the nastiest aspects of the on line shopping. An alternate to this is to eliminate shipping entirely by having brick & mortar presence. Ship to store is an increasing popular option that allows users to browse and pay for an item from the convenience of their homes, then pick it up the same day from the nearest store (with no wait time).

Merchandize Your Products and Services - Merchandising matters because it affects ⅔ of all sales. Along the same lines of keeping things consistent, merchandizing the different categories of products and services on your website can be quite helpful for the overall experience with your company online.

Make Your Website Easy to Navigate - Ensure that the structure of your website is organized in such a way that it is both easy for visitors to browse and easy for search engines to understand. The point of having a website that is organized neatly is to make sure it is always clear where your visitors are on the website, it is easy for visitors to find what they are looking for.

Optimize Your Website for Search Engines - The process of driving more traffic to your website from the search engines is known as search engine optimization. The search engines work to help people find the information they are looking for on the web by matching their searches with the most quality results. The best way to approach SEO for your e-commerce store is to ensure that your website structure is usable, you're constantly creating content for your blog, and that you're correctly naming the pages of your website with accurate keyword rich titles and descriptions that work for both the user and the search engines.

For example, if you sell running shoes you would want your products to rank highly for keywords related to running shoes in Google results. The best thing a business can do when it comes to optimizing their website for search engines is to continually create original and exciting content for your audience. For this example, writing articles about your latest running shoes or the industry of running shoes could help increase your visibility in the search engines as well as educate your customers about this topic and related matter.

Cloud - Most of the e-tailers are depending on cloud technology for its flexibility, scalability, availability, mobility, and efficiency. Cloud communications can be an important enabler in helping e-commerce companies in ensuring personalized consumer engagement throughout the purchase cycle and also in executing effective and near real-time marketing campaigns.

PLAYERS OF E-COMMERCE

Several players have established their place in e-commerce market just in few years. With the rising demand of digital commerce, innovative start-ups are emerging in all segments. Home grown players are trying to compete head-on with global players who have the advantage of scale, technology and deep pockets. According to Deloitte's study "Global Powers of Retailing 2015," Amazon continues to dominate the world of e-Commerce with net product sales of $61 billion in 2013. Flipkart is the largest e-tailer in India with a valuation of about $11 billion and trying to raise funds to compete with global biggies like Amazon and Alibaba. Snapdeal is another home grown player with a valuation of $5 billion. 6 In October, Snapdeal raised $627 million from the Japanese telecom and media group Softbank, who also has a 37% stake in China's e-commerce leader Alibaba. Other emerging players are – BookMyShow with almost 90% of the online entertainment ticketing market; Pay time with almost 20 million users is leading provider of virtual wallet. The global e-commerce market is more advanced in terms of technology, awareness, and payment systems. Amazon and Alibaba are two big players when it comes to global e-commerce market. Alibaba accounts for more than 80% of all online purchases in China and has a global presence. It manages the marketplace and has commission based business model with no products of its own. Amazon, on the other hand, started as online book store and expanded the business as marketplace and also sells its own consumer electronics such as Kindle eBook readers, Fire Tablets, and Fire TV. Only two pure play web-only e-tailers (Amazon and JD) of the top 50 e-tailers were large enough to rank among top 250 retailers.

Source: Deloitte Global Powers of Retailing 2015 Study

TABLE 1

Sr No	Player	Retail revenue in Million USDs-FY13	Growth Rate % FY13	Top Ranking
1	Amazon.com	60,903	17.7	15
2	JD.com, INC., China	10826	66.2	92
3	Wal-mart Stores Inc.	10000	29.9	1
4	Apple Inc.	9000	NA	46
5	Otto (GmBH& co. KG), Germany	8188	7.0	70
6	Tesco PLC, UK	5250	11.0	5
7	Liberty Interactive Corporation	4884	10.9	99
8	Casino, France	3952	19.4	13
9	Sunning Commerce Group Co., Ltd., China	3536	43.9	59

CHALLENGES

Though the e-commerce sector is growing exponentially in India, it faces several challenges like customer mind set, high cash on delivery (COD) based orders, reachability, poor courier services and other policy-related issues.

***High competition**:* There are several players doing the same business in almost the same way. With intense competition the profitability is decreasing due to aggressive pricing strategies, heavy discounts and offers, free delivery, high commissions to affiliates and vendors during sale period to name a few.

***Poor logistic & supply chains**:* E-commerce companies live on the reach and the ability to stock more items than physical stores as these are their biggest differentiators. With this benefit also comes the challenge of robust supply chains and logistics networks, which are not comparable and developed to global standards in India.

***Payments**:* E-commerce companies have to offer a wide variety of payment options including COD, credit and debit card, internet banking, among others. 60-70% of the payments are made using the CoD adoption in India as customers fear to share information online and do not trust the website for secure payments. Moreover, the return percentage of orders in CoD is much higher compared to online payments. To counter these fears, e-tailers have started to provide facility of paying with Card on Delivery.

Cyber security: Cyber security is one of the important challenge which the e commerce industry is facing. They have to design their websites in such a way that these cyber attacks and data breaches can be countered.

CONCLUSION

While a typical e-commerce business model has revolved around developing a marketplace, the future will be all about business models that innovate and transform this very value chain. E commerce has taken the world of retail by storm and captivated the imagination of the entire generation of entrepreneurs. Initially marketers had to constantly innovate and engage with the suppliers to convince them of merits of shifting to a platform that pulls customers towards them rather than pushes products to them. The emerging business models will challenge the existing ecosystem, and make them more open and transparent so that customers transact on the basis of the product or specific value proposition, rather than just buying for the sake of a relationship. Therefore Electronic commerce is a new means of carrying out business transactions through electronic means in general, and through Internet environment in particular, has been proving its potential benefits and effective contribution to the socio-economic growth. As an essential part of the "digital economy", electronic commerce plays the role as the key for us to open our door to the 21st century, the new era of knowledge-based economy.

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GROWTH AND PERFORMANCE OF SELECT NON BANKING FINANCE COMPANIES IN INDIA

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ABSTRACT

A growing economy requires a progressively rising volume of savings and adequate institutional arrangements for the mobilization and allocation of savings. A financial system consisting of financial institutions, instruments and markets provides an effective payment and credit supply network and thereby assists in channeling of funds from savers to the investors in the economy. Financial institutions are divided into the banking and non-banking ones. The distinction between the two has been highlighted by characterizing the former as "creators" of credit, and the latter as mere "purveyors" of credit. The examples of non-banking financial institutions are Life Insurance Corporation (LIC), Unit Trust of India (UTI), and Industrial Development Bank of India (IDBI). Non-Banking Financial Companies (NBFCs) are fast emerging as an important segment of Indian financial system. The purpose of the study is to understand the performance and growth of Non-Banking Finance Companies in India during the period 2011 to 2014. This study found that during the study period the Non banking finance companies have shown a positive trend for development. It is observed that, during this period the HDFC performed much better than the other non banking companies. With respect to the banking performance measures the 2 non banking companies have shown an increasing trend. The study concludes that the HDFC have better managerial efficiencies than the other non banking companies.

KEYWORDS

non banking finance companies, growth performance.

INTRODUCTION

The financial sector is the engine that drives economic growth through effective allocation of resources to productive units. As a developing country, India has immense potential for better economic growth in both the short and long-run. Therefore, need arises for the efficient allocation of productive resources in order to narrow the gap between the actual and potential national output. The concept of productivity is linked closely with the issues of efficiency and encompasses several efficiency elements such as pure efficiency, scale efficiency and technical efficiency. The overall productivity level of an organization depends on all elements. Improvements in efficiency and productivity gains can be considered as one of the goals of a firm in a competitive market. Therefore, measurement in efficiency and productivity gain provide supplementary information about the firm's performance. These measurements can be considered as non-financial performance indicators as they consider all of the contributors to the firm's performance. In any organization, whether it is profit oriented or not, measurements of productivity help to analyze the efficiency of resource use in the organization. The specific reforms were the development of efficient and transparent money markets, promotion of professional competition through free entry or exist in financial sector, recapitalizing the financial health of banks, restructuring poor performing banks, improvement and institutionalization of proper quality improvement systems through development of human resources, information technology etc [Aruna kumari (2002)].

Indian economies have been significantly influenced by non banking sector over the years. The non banking sectors become an important segment of Indian economy for money market dynamics. Financial sector controlled and managed by banking industry works as a source for generating money supply. The non banking financial companies play a dominant role in the economic development of the country. It is well known that the rapid growth in the various sectors of the economy can be brought through efficient, effective, disciplined banking system (RBI report (2010)). Now in Indian economy the non banking sector is considered to be the nerve system with the modern technological advancements. Financial system is decomposed of into two basic types of institutions. One is the banking financial institutions (BFIs) and the other is the non-banking financial institutions (NBFIs). These two financial institutions are different in respect of their activities and treatment of the assets and liabilities in the financial market. For a well functioning financial market along with the BFIs, NBFIs have an important role to uplift the economic activity. These two financial sectors can simultaneously build up and strengthen the financial system of the country. In spite of several challenges in domestic and international conditions, performance of non-banking finance companies remind robust.

REVIEW OF LITERATURE

There have been many studies related to Non Banking Finance Companies both in India and outside India. To have a comprehensive on operational, a brief review of them is desirable and an attempt is made in this chapter.

Kantawala (1997) studied on "Financial Performance of Non Banking Finance Companies in India" for the period from 1985-86 to 1994-95 based on secondary data collected from RBI Bulletins regarding financial and Investment Companies. In this study various ratios and one way analysis of variance (ANOVA) have been applied and concluded that different categories of NBFCs behave differently and it is entrepreneur's choice in the light of behavior of some the parameters which go along with the category of NBFC. **Khalil and Group (2011)** observed on the topic "Financial Performance of Non Banking Finance Companies in Pakistan" to analyze the financial performance of those non-bank finance companies (NBFCs) which are providing the services of investment advisory (IAS), asset management (AMS), leasing and investment finance (IF) for two year from 2008 to 2009. Ratio analysis method has been used to analyze the financial performance of non-bank financial institutions. The study concludes that the financial performance of NBFCs was better in 2008 as compared to the overall decline in 2009 caused by many factors. **Vadde (2011)** investigated on the topic "Performance of Non-Banking Financial Companies in India – An Evaluation" after analyzing the performance of nongovernment financial and investment companies (other than banking, insurance, and chit fund companies) during the year April 2008 to March 2009 based on the audited Annual Accounts of 1215 companies. The data have been collected from various issues of RBI Bulletin. Financial and Investment Companies‟ growth in income, both main as well as other, decelerated during the period and growth of total expenditure also decelerated but it was higher than the income growth. **Samal and Pande (2012)** examined on the topic "A Study on Technology Implications in NBFCs: Strategic Measures on Customer Retention and Satisfaction" by using primary and secondary data & using both descriptive and analytical Research design. The authors concluded that technology on services and technology care for beneficiary have more influencing potentiality in increasing beneficiary satisfaction. But NBFCs must look to all other factors to increase its potentiality in technology, as new beneficiary are more accustomed with new technology to save their time and energy. **Kaur and Tanghi (2013)** investigated on the topic "Non Banking Financial Companies, Role & Future Prospects" with a focus to analyze role and significance of NBFCs in India. The paper concludes that NBFCs have to focus more on their core strengths and must constantly endeavour to search for new products and services in order to survive and grow constantly. **Khan and Fozia (2013)** have researched on the topic "Growth and Development in Indian Banking Sector Introduction" based on the secondary data. The purpose of the study was to show the growth and technological development in Indian Banking sector. Statistical tables and charts have been used by the researcher and concluded that banks need to optimally leverage technology to increase penetration, improve the productivity and efficiency, better customer service and contribute to the overall growth and development of the country. **Arun kumar (2014)** has made an attempt on the topic "Non Banking Financial Companies: A Review" and after observing twelve studies of different authors he concluded that due to the regulations of the Reserve Bank of India, still the NBFCs are not entering into more credit and suggested to the NBFC credit policy to reduce rates of interest. The study finds a research gap which is „evaluation of performance of NBFCs in India‟. **Mohan (2014)** observed on the topic "Non Banking Financial Companies in India: Types, Needs, Challenges, and Importance in Financial Inclusion" and suggested to improve Corporate Governance Standards and concluded that NBFCs have turned out to be engines of growth and are integral part of the Indian financial system, enhancing competition and diversification in financial sector, spreading risks specifically at times of financial distress and have been increasingly recognized as complementary of banking system at competitive prices.

RESEARCH METHODOLOGY

The present study focuses on the growth performance evaluation non banking finance companies in India. The study based on secondary data that has been collected from annual reports and other public information. For this purpose the parameters such as investments, advances, total assets, operating profit, Net profit, and investment deposit ratio are considered.

A Non-Banking Financial Company (NBFC) is a company incorporated under the Companies Act, 1956 and conducting financial business as its principal business. In contrast, companies incorporated under the same Act but conducting other than financial business as their principal business are known as non-banking non-financial Companies. NBFCs are different from banks in that an NBFC cannot accept demand deposits, issue checks to customers, or insure deposits through the Deposit Insurance and Credit Guarantee Corporation (DICGC). In India, the non-banking financial sector comprises a multiplicity of institutions, which are deemed under Section 45 I (a) of the Reserve Bank of India Act, 1934. These are equipment-leasing companies (EL), hire purchase companies (HP), investment companies(ICs), loan companies (LCs), mutual benefit financial companies (MBFC), miscellaneous non-banking companies (MNBC), housing finance companies (HFC), insurance companies (IC), stock broking companies (SBC) and merchant banking companies (MBC). NBFCs have recently gained popularity amongst institutional investors, since they facilitate access to credit for semi-rural and rural India and it have also had a major impact in developing small business in rural India through strong customer relationship. The growth performance of various categories of Non Banking Finance Company is carried by computing the compound growth rates of various parameters.

GROWTH AND PERFORMANCE OF NON BANKING FINANCE COMPANIES IN INDIA

The NBFCs of the country diverts its savings towards more productive usage and so it help to increase the output of the economy. Besides linking savings and investment the financial companies help in accelerating the rate of savings and investment by offering diversified financial services and instruments. Financial Institutions play a crucial role in economic development and growth. The Non banking sector has manifested capital base improvement and profit maintenance with respect to the parameters such as credit, liquidity and interest rate remain at respectable levels even under extreme shocks of global economy. This healthy phenomenon of Non banking is due to the economic reforms made by Indian government during post liberalization era (RBI Report on trend and progress of banking in India).

INVESTMENTS

Investment of a non banking finance company is one of the most important parameters for analyzing the performance of the firm. The non-banking companies gets fund through deposits from public, paid-up capital and reserves. NBFCs have to pay interest to the public at the contract rate at the end of the period. They have to pay dividends to their share holders and they have to meet their staff expenses and other expenses. Only getting mobilization of deposits does not serve the objectives of the non banking companies. The NBFCs have to get income to meet their expenses. So they have to invest their funds for the schemes with good ROI. The basic purpose of investment of a non banking company is to get better income to their funds. Hence, to understand the trend in investments of various categories of non banking companies the data on investments is presented in Table 1.

TABLE 1: GROWTH IN INVESTMENTS OF SELECT NON-BANKING FINANCE COMPANIES

Category of NBFCs	2011	2012	2013	CGR (11-12)	2014	CGR (13-14)
HDFC	7579.15	8811.15	3385.97	16.87	9051.55	19.77
IDFC	2955.26	2956.01	1043.47	3.25	8317.5	5.61
IFCI	918.43	900.96	3602.07	9.91	1093.3	12.57
BAJAJ HOLDINGS	357.67	422.020	2104.3	10.92	5259.2	11.8

From Table 1 the investments in HDFC has increased from 16.87% in 2010-2011 to 19.77% in 2012-2013, where as IDFC the investments have raised from 3.25% in 2010-2011 to 5.61% in 2013-2014. Among all the non banking finance companies Bajaj holdings have increased their investments during 2012 to 2013 with a compound growth rate of 11.8%, where as in IFCI the compound growth rate has increased from 9.91% to 12.57% during the periods 2010-2011 and 2013-2014 respectively. However, the investments in HDFC have increased during 2013-2014.

ADVANCES

Advances in banks are also known as loans. The advances carry interest rates depending on the risk involved. The income earned through advances is the main sources of income to non banking finance companies. The advances can be categorized into two types namely, 1) short term loans and 2) long term loans. The short term loans are working capital loans and long term loans purchase of house hold articles for setting up small scale units, agricultural capital needs etc,. Usually non banking companies provide the advances depending on purpose ability and other strategy requirement. Table 3 shows the advances of various Non Banking Finance Companies during 2011-14.

TABLE 2: GROWTH IN ADVANCES OF SELECT NON-BANKING FINANCE COMPANIES

Category of NBFCs	2011	2012	2013	CGR (11-12)	2014	CGR (13-14)
HDFC	1704.80	2153.81	3375.23	17.42	25451.3	14.77
IDFC	631.14	756.19	125.7	2.64	867.79	5.61
IFCI	226.23	237.34	225.2	8.56	484.2	6.47
BAJAJ HOLDINGS	1382.2	157.98	254.37	11.53	1811.8	12.25

From Table 2 it is observed that the non banking finance companies Bajaj Holdings have increased their advances from 11.53 in 2011 to 12.25% in 2014. Among these non banking finance companies the IFCI are having highest percentage of advances in 2012.The HDFC have marked a significant growth in advances from 2011 to 2014 with a compound growth of 14.77%. In IDFC the advances increased from 631.14 crores in 2011 to 867.79 crores in 2014 with the compound growth of 5.61%. In all types of non banking finance companies the IDFC is having a low increase in its CGR of advances, where as the Bajaj Holdings and HDFC have increased their CGR during the period 2011-2014.

TOTAL ASSETS

Non Banking Finance Companies assets include all its investments, other non- banking assets like building, furniture, fixtures etc. The total of all these assets of a NBFC is one of the important performance measures for the stability and growth of a firm. All types of non banking finance companies reported an increasing trend in total assets during the periods 2011-2012 and 2013-2014 in spite of global financial disability and challenges. Table 3 shows the total assets of non banking finance companies in India.

TABLE 3: GROWTH IN TOTAL ASSETS OF SELECT NON-BANKING FINANCE COMPANIES

Category of NBFCs	2011	2012	2013	CGR (11-12)	2014	CGR (13-14)
HDFC	5624.3	8569.2	35486.4	14.28	1452.8	19.77
IDFC	3658.2	2569.3	1456.2	4.92	7568.2	6.25
IFCI	856.5	9562.2	4526.5	8.79	1258.3	13.45
BAJAJ HOLDINGS	3652.4	3856.4	2546.2	11.76	6523.2	12.36

From Table 3 it is observed that the IFCI have contributed 66% distribution of total assets. The IDFC have recorded compound growth rates 4.92% in 2011-12 and 6.25% in 2013-14 .The HDFC have increased their total assets with a compound growth rate of 19.77% in 2013-14. In Bajaj Holdings the total assets during 2011-12 amounts to 11.76% and 12.36% in the year 2013-14. This distribution was stable over all the three years during 20011 - 13.

OPERATING PROFIT

Operating profit is also known as gross profit. The operating profit can be computed as the total income earned by firms minus total expenditure. The total income is obtained through interest earned on advances, loans, commission on over drafts and other services and the interest earned on their assets etc. Usually the total income is calculated as interest earned income plus other income. Similarly the total expenditure is the sum of interest expanded and other expenditure. The total profit is one of the most important parameters for non banking finance companies. The gross profit will characterize the financial health of the firm. This operating profit is also an important factor for NBFCs sustainability in the market. Hence, the data on operating profit of all types of Non- banking finance companies is collected and presented in Table 4.

TABLE 4: GROWTH IN OPERATING PROFIT OF SELECT NON-BANKING FINANCE COMPANIES

Category of NBFCs	2011	2012	2013	CGR (11-12)	2014	CGR (13-14)
HDFC	8569.4	9568.4	45896.2	14.25	10515	20.25
IDFC	3658.4	235.8	12548.2	5.67	8315	18.35
IFCI	956.7	7568.4	4562.7	10.25	1093.3	14.23
BAJAJ HOLDINGS	4625.7	5486.5	3658.2	13.24	5259.2	12.36

From Table 4 it is observed that there is an increasing trend in all types of non banking finance companies with respect to the operating profit from 2013 to 2014. In HDFC the operating profit is increased from 14.25% in 2012 to 20.25% 2014. Among all non banking finance companies have contributed 62 % of the total operating profit. The IFCI have increased their operating profit from 10.25% in 2011 to 14.23% 2014. Among all types of Non banking finance companies, the HDFC is having highest of annul compound growth rate in operating profit during 2013-14.

NET PROFIT

Net profit is the one of the most important performance measures for any Non banking finance companies. Some people argue that the performance of a finance company should be judged in terms of profitability alone. The net profit is usually influenced by the fulfillment of social objectives and spreading the non banking services. In spite of world economic crisis during 2009 to 2012 all types of non banking companies have recorded an increasing trend in net profit. The data on net profit of non banking finance companies over the periods 2011 to 2014 is shown in Table 5.

TABLE 5: GROWTH IN NET PROFIT OF SELECT NON-BANKING FINANCE COMPANIES

Category of NBFCs	2011	2012	2013	CGR (11-12)	2014	CGR (13-14)
HDFC	8542.7	9568.7	7426.9	14.87	12534	20.25
IDFC	2568.8	3256.4	1123.4	7.2	7524	8.23
IFCI	754.8	875.4	2536.4	16.74	1245.3	15.42
BAJAJ HOLDINGS	4256.1	3254.2	4356.2	11.26	5423.6	13.8

The non banking finance companies have also increased their net profit. Among all the select non banking companies IFCI has recorded highest CGR in 2011-12 with a compound growth rate of 16.74%. The same phenomenon is observed with respect to HDFC bank operating in India. Among the select non banking finance companies the 3 NBFCs have contributed 83% in the net profit. The net profits of Bajaj Holdings have increased from 4256.1 crores in 2011 to 5423.6 crores in 2014 with CGR 13.8% in 2014.

CONCLUSIONS

Non Banking Financial Company is one of the most attractive and biggest markets of Asia for the investment. In the present day competitive market environment retaining the customer and their goodwill is a major challenge. The need of NBFCs is making the customer happier by providing qualitative services that there is one to one correspondence between development of the economy and occupational structure.

Even though the performance of Non banking finance companies during the period 2011 - 14 is under challenges due to stressed financial conditions, the balance sheet and expansion of NBFCs remains stable and recorded steady growth in several performance matrices, such as advances, investments, total assets, total income, operating profits, provisions and contingencies, net profit, credit deposit ratio, investment deposit ratio etc.,. These parameters have a vital role in increasing the profitability and productivity of Non banking finance companies.

The NBFCs are reducing their operational cost and increasing quality of services. Many NBFCs are focusing their operations towards customer centric services. In the present competitive business environment the NBFCs are searching for new ways and means to provide an excellent experience to their customers for a cheaper cost. This study emphasizes the positive growth and stability of Non banking finance companies during global economic crisis.

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ROLE OF OUTSIDERS IN DISTRIBUTION OF INFORMATION OVER THE INTERNET

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ABSTRACT

Outsiders play a big hand in sharing the information of the companies more effectively to the various stakeholders. Outsider group comprises of various websites which provides services and other independent sites and forums on the web. Majority of companies just focus on creating their websites and uploading generally raw information on these sites. This raw information does not add much in achieving the core objective of corporate reporting. Stakeholders are in need of effective, interactive and full-dress report so that they can take peerless decision regarding their investment. This need of stakeholders is met by the outsider groups. These outsider groups add much needed lift to the corporate reporting process by sharing the material information about various companies on their own websites and blogs in a very user-friendly and interactive way. The data collected is of secondary nature.

KEYWORDS

internet reporting distribution, role of outsiders in distribution information over internet, service providers.

INTRODUCTION

Outsider Group plays an important role in distributing information about the company over the web. These outsiders provide information in a form which improves the usefulness of information over the internet. Mostly companies upload their information on their websites only. But in certain cases the information is in raw form which can be difficult to read or analyse by any person. So sometimes they create other sites or take help from various independent companies providing these kinds of services. For example a company can upload full report on its website which is identical to a printed report. Then it could be difficult for any person to read full report on web. In that case company can provide hyperlinks on their site or various independent sites by themself could transform that full report into various parts and display on their domain. It will make report more interactive and useful for users to study and analyse.

OBJECTIVES OF THE STUDY

The objective of this study is to find out the role of outsiders in distribution of information over the internet.

DISCUSSION

The role of outsiders in the distribution of information over the internet can be discussed by first having a brief knowledge of the term Outsiders. After understanding the core meaning of outsiders, this article will proceed to the role of the outsiders in sharing and distributing the information about the companies on the internet. Let us now look at these two aspects:

1) **Who are Outsiders?**
2) **Role of outsiders.**

WHO ARE OUTSIDERS?

Outsiders are those who help in making the information on websites compatible and useful for the users. They take raw information available on the website of company and transform it to more useful and interactive form which enhances the value and usefulness of the information. They can be classified into two categories:

1) **Service Providers**
2) **Independent Sites and Forums**

These outsider groups are explained as under in more detail:

1) **Service providers:** This outsider group comprises of various companies who provide information of the company in more interactive way. These companies add value by enhancing the information or by providing information in a form that is compatible with websites. The services of this group are often hyperlinked from a company's website. The main objective of this group is to improve the usefulness of the information already available from other sources. They make information useful by transforming the raw information presented on original company website into interactive form by presenting it in the form of tables, allowing the user to download in spreadsheet format, etc.

EXAMPLES OF THIS OUTSIDER GROUP

Some important examples of the service providers who enhance the information of the company and add value to the reports are listed below in Table 1:

TABLE 1: TYPE OF INFORMATION PROVIDED ADDRESS OF THE SERVICE PROVIDER

Stock price news	www.digitrade.com
Consensus earnings forecast	www.firstcall.com
EDGAR SEC filings	www.sec.gov
Enhanced SEC filings	www.edgaronline.com
Fundamental data for Analysis	www.mgfs.com
Media Financial Services	www.freeedgar.com

2) **Independent sites and forums:** This outsider group consists of various independent websites and forums that provide a range of information about individual companies. These independent websites and forums can be classified according to the services provided by them. The services provided by these websites can be of three types :

a) **Hyperlinks:** Some websites contain only various hyperlinks to a company or other websites.
b) **News:** Some websites include collection of news about the company and articles or papers on investments.
c) **Subscription services:** Many of these websites offer a combination of free and subscription services.

EXAMPLES OF INDEPENDENT SITES AND FORUMS

There are various independent websites and blogs or forums which provide information about the companies to the users. Some of these sites are shown in Table-2 below:

TABLE 2: TYPE OF INFORMATION ADDRESS OF SERVICE PROVIDER

Reports and Charts	www.bigcharts.com
News	www.newspage.com
Press releases	www.quicken.com
Investor forums	www.fool.com
Free and fee-based services	www.bridge.com
Listing of links of financial nature	www.dailystock.com
Annual reports	www.irin.com
Business news, Reports of analysts	www.msn.com

ROLE OF OUTSIDERS

The role of outsiders in providing the information over the internet is very significant. These outsider groups provide a lot of information about the company to the users in interactive form. The role of outsiders can be understood by studying these points:

1. **Information about Company:** These outsider groups provide basic information about the company to the users like company address, phone numbers, location, etc.
2. **Information about officers and key employees:** Information of number of officers and key employees of the company are also available on these websites.
3. **News coverage's and press releases:** All the important news and press releases by the company from time to time are made available at these websites.
4. **Patents information:** Information about patents and trademarks and other intangible assets are available on these websites.
5. **Segment information:** Information about segment reporting and related to various segments is provided by these websites.
6. **Comparisons:** These websites also display information related to comparison of industry and market.
7. **Information about competitors:** All type of information about the competitors and their strategies are available on these sites.
8. **Information about insider trades:** All type of material information about the insider trades in the company is provided by the sites.
9. **Information about financial position:** These sites also disclose the financial and profitability position of the company.
10. **Information about political contributions:** Information regarding the contributions made by the company to various political parties is made available on the sites.
11. **Subsidiaries information:** Information regarding various subsidiaries companies under the holding company is also shown on these forums and websites.
12. **List of products and services:** All type of products and services provided by the company are listed on these websites.

CONCLUSION

From the above study, it can be concluded that outsider group plays a significant role in the distribution of information over the internet. They indeed play a major role in improving the quality and reliability of the published information of the companies on the internet. But these outsiders group also face a tedious challenge to make continuous efforts to improve the comprehensive and timeliness qualitative characteristics of the published statements.

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CSR AS A MEASURE FOR ENHANCED REPUTATION: A REVIEW OF WORLD RENOWNED SELECT COMPANIES

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ABSTRACT
In today's context, Corporate social responsibility (CSR) is no longer viewed as an obligation by the corporates, but has become focal point of their operations. The conceptual framework of CSR has evolved for well over 50 years where traditionally business houses have viewed CSR as just another pressure on their shoulders or a passing fad. But the increasing inclination and importance that the customers, employees and suppliers attach with company's social involvement, business leaders started to view it as an upcoming opportunity to strengthen the degree of confidence of various stakeholders to enhance their business value and global reputation. The research paper is an attempt to review Global Reporting Initiative (GRI) reports and annual reports of the corporate disclosed publicly on their websites under CSR LENS. The focus rests on whether CSR is looked upon strategically and how companies are rewarded from being socially responsible? The working paper also highlights key CSR initiatives of world's renowned companies across the globe

KEYWORDS
corporate citizenship, corporate reputation, social accountability, companies act 2013, triple bottom line.

INTRODUCTION
Goodness is the only investment that never fails.

Henry David Thoreau, American writer

Modern corporations cannot shirk from their social responsibility because their activities exert a tri-dimensional impact(economic,social and environmental) on society. With the changing times of globalisation,people's expectations of corporation's behaviour has changed .Coventionally,the role of corporation was viewed as largely economic ie corporations circulates goods and services in an economy and in doing so,accelerates wealth and employment. Increasingly now people believe that economic growth be linked to environmental and social well being. CSR is based on right-based perspective which stresses that every stakeholder-investors,regulators,employees,municipalities and non government organisations have a right to know about their businesses and what they are doing. It upholds assumption of social accountability and corporate citizenship as a pre requisite to sustain in market in long run. In this working paper,we have reviewed reports published by GRI(Global Reporting Initiative),which is an international non -profit organisation with a mission that all companies should adopt sustainability reporting as their standard business practice.So it developed a framework for the companies to understand and communicate their sustainability performance.The paper also highlights csr initiatives of world's most reputed companies as ranked by Reputation Institute which is the world's leading advisory and research firm for reputation. .It's objective is to help their clients to protect their reputation,analyse risk and build competitive advantage Institute's RepTrak model collect database of 15 stakeholders in more than 25 industries and in more than 40 countries for around 7000 companies.It provides an appraisal mechanism which shows how the general public views the world's most reputed companies.

RESEARCH OBJECTIVES
1. To study the reasons for growing importance of realising social responsibility by companies
2. To study how CSR help to build and sustain reputation in long run
3. To analyse benefits that accrue to firm for discharging their social responsibility
4. To highlight key CSR initiatives taken up by world's most reputed companies

RESEARCH METHODOLOGY
This study uses qualitative data in order to prepare an explanatory theoretical paper to study why companies should make a strategic CSR policy as apart of their regular business practice.The paper reviews reports of GRI and Reputation Institute to find out benefits that a company could achieve by building upon a strong reputation in market by realising CSR.Secondary data from both print media(books,journals,periodicals,research reports,internal records of organisatiin,indexes,directories,newspapers and magazines) as well as electronic media(online databases,internet,videos and broadcasts) are gauged to arrive at most reputed global companies of 2015 and what all CSR initiatives they are carrying out to build sustainable reputation in market.

NEED
This study is worth examining for the reason that it provides important insights into the consumer's perceptions and why CSR is relevant for today's changing businesses norms and how can they adapt it to their strategic advantage.

CSR DEFINED
According to the World Business Council for Sustainable Development "CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of workforce and their families as well as of local community and society at large". CSR (also known as corporate conscience or corporate citizenship) represents social stewardship by businesses in recognition and understanding needs of society and commitment to contribute to its achievement. The perspective stresses on accountability,transparency and effects of company's actions on social and environmental well being. CSR is closely associated with the principle of **"sustainable development"** which is build on premise that process of economic growth and development should meet the need of present generations without compromising on ability of future generations to meet their needs. The application of principle of sustainable development through CSR approach is accompanied by what we call as TRIPLE BOTTOMLINE REPORTING(ie concern for people,profit,planet) which deals not only with the financial results but also the social and environmental impact of business activities.

FIG. 1

Source: http://www.ridg.com/blog/2015/3/26/usfsp-innovation-overnight-design-thinking-and-triple-bottom-line

WHY ARE TODAY'S CORPORATIONS BECOMING INCREASINGLY RESPONSIBLE?

Gone are those days when corporations are just busy in maximising profits to cover their underlying cost. They are now expected to discharge their societal obligations and fulfilling stakeholder aspirations along with their shareholder's wealth maximisation goal. This "**holistic approach**"regards businesses as equal partners with their society rather than seeing them merely as profit making units. Various forces compelling business units to recognise their social responsibility are summarised below:

COMPELLING FORCES	Today's enlightened consumers can make the government intervene if corporations are socially unresponsive in their operations. Government too is empowered to take over management and control of any enterprise in public interest.corporations no longer reap undue profits by marketing sub standard and adulterated commodities,creating supply shortages and charging high prices,hoarding,black marketing,exploiting consumers and workers as a consequence of fear of being punished for such acts. Section 135 of the Companies Act 2013 mandates that with effect from April 1, 2014 a company needs to spend atleast 2% of its average net profits for the immediately preceding three financial years on CSR activities which compells the firm to be socially responsible.
PERSUASIVE FORCES	Enlightened business activists have been persuading the corporations to conform to social norms. They had been giving adequate training to develop adequate skill set required to furnish social obligations. They particularly create awareness about csr initiatives of various corporations and how they have benefitted from them.
FAVOURABLE FORCES	With the separation of ownership and management,the managerial function is vested in the hands of today's generation educated and responsible managers who give equal weightage to social objectives as economic goals. This has created favourable conditions for recognition of social responsibility.
PUBLIC IMAGE	It is in the long term self interest of the business to assume social responsibility if it wants to sustain in the market. It could gain the credibility and loyalty with the customers only if it fulfil social obligations on continuous basis.Good relations with customers,suppliers and employees would ultimately lead to corporate success.
DYNAMIC BUSINESS ENVIRONMENT	Changes in political,social,economic,legal and technological conditions in business environment that thrust corporates to assume social responsibility include growth of consumerism,growth of labour movement,increase in literacy levels,legislations against exploitation of labour and rise in consumer organisations and non profit organisations.

LINKING CSR TO CORPORATE REPUTATION

WHY MEASURE REPUTATION?

Reputation means how well you position your company in the mind of your various stakeholders.It is an estimation of how an organisation is perceived by its internal and external stakeholders based on its past actions and probability of future behaviour. According to Reputation Institute,world's leading reputation based advisory firm,reputation is an emotional bond that ensures:

- Who uses your products
- Who recommends you
- Your investors support you
- Policy makers and regulators give you the benefit of doubt
- Your employees are aligned and deliver on your strategy

Reputed companies can mitigate the adverse impact of negative publicity by discharging their social responsibility toward society . Three factors that allow CSR to be leveraged as insurance for companies to not only protect but build reputation are persistent effort and commitment, modesty and humility in promoting CSR, and support for noble causes. These strategies help managers build and sustain firm's reputation, maintain sales, and gain customer loyalty and third party promotion.

Ordinarily, CSR is viewd as a response to social pressures or simply a cost of doing business, but few have examined how it can be utilised to provide benefits and mitigate harm. This research aims to bridge this gap by studying how CSR can act as insurance to protect company reputation.

- Firms with weak CSR suffered stock declines twice the magnitude of firms with strong CSR reputations following the riots in WTO meetings in Seattle
- Consumers' purchase intentions were twice as high for products of companies described as having a strong CSR reputation compared with those with a weak CSR reputation following a product recall
- If no negative publicity occurs, CSR still provides value to the firm as a buffer for future harm . Even if the relationship between CSR and financial performance is neutral, the insurance value can still justify CSR investment.

RETURNS ON REPUTATION

According to a report by Reputation Institute,corporate reputation is an additional source of competitive advantage. Companies that invest in strong intangible asset , reputation, realise various tangible returns on their investment which are summarised below:

- ✓ **Enhance Stock Price -**The companies having stronger reputation outperformed than the overall market since 2008 crises.they produced almost double returns by capitalising on their strong reputation.
- ✓ **Benefit of doubt**-good reputation supports an organisation in times of crisis and controversies and retain its market share
- ✓ **Charge premium prices-**a company having good reputation in the market can secure premium prices for its products

- ✓ **Product differentiation-**a reputed corporate entity can position its products with distinct identity even in highly competitive markets
- ✓ **Influence on policy making** -companies with better reputations are invited to provide input to policy makers when new regulations are formulated
- ✓ **Greater access-**with better reputations are approached more often, are more likely to get the deal closed and that too at a better price (Qualitative findings from RI CFO interviews)
- ✓ **More clients-**a company having a good corporate status can bring in more clients even without spending time and effort in convincing them because their current clients acts as unofficial spokesperson
- ✓ **Cost savings-**reputed corporates are not required to spend much on employing expertise of advertising agencies as they can retain existing customer base and attract further prospects through their established brand equity.
- ✓ **Attracting the best talent** -a good company reputation is a top driver for people when they consider which company they would like to work for. A higher reputation results in a significant pool of candidates wh wish to get associated with company
- ✓ **Higher Employee Engagement and Alignment** -a good company reputation is a key driver for employee pride and engagement. A strong reputation is a leading indicator for employees willingness to deliver on the company strategy (RI findings from Employee Reputation and Alignment studies)

An annual study conducted by Reputation Institute ,THE CSR GLOBAL REPTRACK®100,which forms the basis of the research,measure CSR reputation of the world's 100 most highly reputed global companies in 15 countries. In 2015,the institute conducted more than 150,000 interviews to arrive at the perceptions of consumers with repect to reputation of companies. The results enable us to find:

1. Which companies are best regarded by consumers
2. What drives trust and support of consumers
3. How companies are living to public expectations

The institute measures a company's ability to deliver on stakeholders expectations on 7 key dimensions which are the rational explainations of the emotional bond that the consumers have with the company and its products:

1. Financial performance-it is a high performance company and deliver good financial results
2. Products/quality of services-offer premium quality products and services
3. Innovation-makes or sells innovative products or innovates in the way it does its business
4. Leadership-company is lead by transformational leaders and is managed effectively
5. Governance-it runs ethically and is responsible and transparent inits operations
6. Citizenship-it supports good cause as a responsible entity and protect environment
7. Workplace-appealing place to work which treat its employees well

The last three key areas are considered in relation to csr which reflect performance in terms of first, **good corporate citizenship** which means company support good social causes,have positive societal influence and is environmentally responsible.secondly,whether company addresses **good governance** norms ie,it is open and transparent in its operations to its stakeholders,behaves ethically and is fair and just in corporate conduct.third dimension focus on **providing healthy work-platform** where employees are treated equally,are paid well and are given opportunities for growth contributing their personal well being.

TOP COMPANIES WITH THE BEST CSR REPUTATIONS 2015

RANK 1. GOOGLE

- GOOGLE AD GRANTS,an in kind donation program empowering select non profit organisations,through $10000 per month in in-kind Ad-Words advertising to promote their cause.The more frequently your ads appear next to google search results it translates into more volunteers and donations which is the lifeblood of any NPO.Since its inception,it has been rendering support to charitable organisations in advocating their cause from animal rights and literacy to abandoned child and HIV education.

ROOM TO READ an NGO working for educating children in Vietnam, Nepal, India and Cambodia, attracted a sponsor who clicked on its AdWords ad who has donated funds to support the education of 25 girls for the next 10 years.

CoachArt,a trust aiding children with life-threatening illnesses through art and athletics programs, witnessed 60 to 70 percent increase in volunteers

Jet Li's One Foundation and his umbrella organizations have also started using Google Grants to promote the cause of corporate philanthropy.

- **"Google China Social Innovation Cup for College Students"** is a nationwide competition that aims to empower China's youth to become agents of social change. By funding viable proposals, it instill in China's future youth the values of social responsibility, the importance of community welfare, and the spirit of self-empowerment Social issues addressed included education, poverty alleviation, disability aid, healthcare, women and children, arts and culture, and community development. Through project evaluation, mentorship and funding, it is driving true social innovation in China.
- **Energy conservation:**Google produce or procure 35% of renewable energy and the remaining 65% of non renewable energy is neutralised by carbon offset projects.Google data centers consume 50% less energy compared to typical data center.Google's agreement to invest more than $1.5 billion in large scale wind projects and solar panels is yet another major sustainability initiative
- **Carbon emissions:**Google's most of the operations are conducted in a carbon neutral environment friendly platform,**cloud**
- **LEED** has given green certification status to more than 4 million square feet of google buildings

RANK 2. BMW

ENVIRONMENTAL CONSERVATION

- As an annual corporate partner with **The Nature conservancy,**a leading environment conservation organisation,BMW plays a strategic role in preserving nature and human life on earth and retaining ecological balance on our planet.
- BMW sponsor various projects of South Carolina Wildlife Federation to help develop and preserve natural habitats throughout the state

GOING GREEN

They have an on-site butterfly garden to conserve and attract native butterfly species.

They built in a number of handmade birdhouses on their factory site that help sustain local bird population.

They have recommended a set of environmental guidelines to be followed by suppliers.

They have replaced the use of water based paints instead of high solvent paints to reduce air emissions.

They treat all the waste water before releasing it to local municipal water treatment plant.

ROAD SAFETY PROGRAMS

School route maps were given to the children of primary classes in Munich and Berlin to ensure thet they can get safely to schools.

They have started Children's Traffic Safety Education Programme in China since 2005 to acquaint children with traffic safety norms.

Websites like "safe on street" provide information regarding traffic safety regulations of 7-11 old children for parents and primary school teachers and "coolwayz" which enables pupils to plan out the safest route to school by themselves.

HIV/AIDS PROGRAMME

BMW came up with HIV/AIDS workplace programme called "AID for AIDS" which provide extensive healthcare services like medication,psychological counselling,nutrition and lifestyle education to employees and their families.over 87% of BMW employees in South Africa have been tested on HIV/AIDS voluntarily

They teamed up with LOVELIFE trust to set up HIV/AIDS prevention centre for the youth

RANK 3.WALT DISNEY

PROTECTING ECOSYSTEM

Disney has made an investment of worth $48 billion in carbon offset projects involving conservation of forest,reforestation and forest management.

Disney had a long term objective of ZERO WASTE for which it follows recycling approach at its amusement parks

Disneyland resort was rewarded in 2009 for its water conservation initiatives with the California's highest and the most prestigious environmental honour

Disney's Animal Kingdom engaged a veterinarian who carry out routine checkups on sea turtle.people can watch animals getting health checkups and discuss with animal scientists about wildlife tracking.

Disneyland Resort runs trains on biodiesel made with cooking oil and thereby minimising air emissions and help sustain ecological balance

They have set 3 long term goals as a part of their citizenship policy:

1. They aimed to reach a ZERO STATE in the area of greenhouse gas emissions. They targeted to reduce net emissions by 50% by 2020 from 2012 emission levels
2. They planned to develop water conservation plans for new sites and maintain potable water consumption levels at existing levels by 2018.
3. Reduce wastage to zero levels and targeted to achieve 60% waste diverted by 2020 from landfills and incineration.

DISNEY CONSERVATION FUND

In 1995,Disney founded Disney Conservation Fund which is yet another critical effort to protect the planet and imbibe kids with the conservation values via connecting them to nature through exploration and discovery.The fund provides financial assistance for conservation of habitats,study of wildlife and development of educational programs in critical ecosystems.fund announced 2015 CONSERVATION HEROES for honouring individuals whose passion and dedication enables the success of conservation projects around the world.the fund also extends support to local and global non profit organistions that focus upon planet's most urgent environmental and conservation isssues.1n 2015, fund's grants surpassed $30million setting a milestone for the rest.

CIVIC ENGAGEMENT

The civic engagement goals of Disney include:

1. To promote a cultre of giving through a powerful tool of entertainment.
2. Interact with the stakeholders on regular basis.

Disney gives back to local communities around the world by dedicating funds and in-kind gifts to improve and enrich the lives of children and their families by focussing upon the 3 core areas:

Compassion:delivering joy,hope,positivity and laughter to those who need it the most

Conservation:tie a knot between kids and nature to blossom life long conservation values in them

Creativity:harnessing innovation and imagination among the kids

EMPLOYEE ENGAGEMENT

Over last three decades,Disney's employees and cast members have devoted more than 8 million hours in their voluntEARS program which works for filling hospital rooms with laughter and serving meals to those starving,building homes ,cleaning beaches and so on.

Exceeding 150 executives serve as Green Team Leaders to raise awareness and educating people abouy organisation's environmental goals and standards.

They also act on many non profit boards of directors and lend theor personal skill and expertise in raising capacity of npo's in strategy formulation,communicating business responsibly and raising funds.

RESPONSIBLE SUPPLY CHAIN

Disney's socially responsible goals for managing a responsible supply chain are:

International Labor Standards: International Labor Standards (ILS) is a citizenship Program that evaluates and helps improve working conditions in plant producing Disney-branded products.

Product Safety: The safety of products bearing Disney brands ,logos and other trademark is utmost area of concern .Disney ensures that licensees and manufacturers comply with all legal and regulatory safety norms and conduct prior safety tests by independent-certified third-party testing laboratories.

Product Footprint: their long term object is to reduce the environmental footprint of their products. It focused on two areas in particular: the sourcing of raw material with special reference to sustainable paper use and secondly making manufacturers and suppliers socially responsible and ethically accountable to their actions. In year 2011, key suppliers of key Disney completed an Environmental Responsibility Index survey that will serve as a benchmark for measuring performance in future and acounting for any improvements.

RANK 4. MICROSOFT

EMPOWERING YOUTH

YouthSpark - Project Jyoti ,a magnificent initiative of microsoft is based on the concept of the Community Technology Learning Center wherein young adults in backward communities can learn about computers, use the internet, explore careers, participate in community activities, and develop technology skills, free of charge.

CALAMITY RELIEF

Microsoft came up with disaster Response Programe to reduce vulnerability and improve disaster responsiveness through training,technology and expertise for citizens and businesses.over last few decades,Microsoft has also provided support for more than 300 natural disasters.

PARTNERS WITH NON PROFITS

Microsoft is associated with around 50000 non profit organisations around the globe either through software donations or technology collaborations to help them to act more innovatively and efficiently.

It has converted digital modules and curriculum into easily comprehendable local languages to help more and more local people acquaint with computer knowledge base

Microsoft in kind donations include software products of over 300 crore rupees.

RANK 5. DAIMLER

MANAGEMENT

Daimler is building a new testing and technology center in immendingen which was once a military site and now being turned to a prospective business location.It provides a platform for research and development where future technologies, alternative drive systems and driver assistance systems are to be developed, tested and finally put on the road. A central goal is to continue to reduce vehicle emissions and protect the environment even better

ETHICS AND INTEGRITY

Daimler is the only automotive manufacture that has restablished a Board of Management division for "Integrity and Legal Affairs" in 2011. The various initiatives of the division help to firmly incorporate a culture of integrity in the company.

The Board of Management division includes legal operations,the compliance norms,Corporate data protection,integrity management and corporate responsibility management

PRODUCT

They incorporate environmentally compatible product development and innovative concepts like trailblazing vehicle and powertrain technologies, lightweight construction, the use of natural materials and remanufacturing of components to sophisticated assistance systems that can prevent accidents. Their environmentally compatible and energy-efficient product design take into account the entire product life cycle – spanning from production and product use to disposal and recycling.

CHARITY-"WINGS ON WHEELS"

Daimler Trucks provided support to aid convoy of the organization Aviation without Borders (AWB), which transported more than 300 tons of valuable aid to the Turkish region of Gaziantep.

EDUCATION

Studies indicate a declining interest in technical subjects among children and young people and forecast an increasing shortage of qualified STEM employees (STEM = science, technology, engineering and mathematics). To counteract this trend, Daimler's Genius,a knowledge community,is providing exciting ways for children to access STEM learning and is an investment in Germany's future as a leading center of technology.

CURRENT SCENARIO OF CSR IN INDIA

The advent of CSR law introduced by Companies Act 2013 have made radical changes in the CSR landscape.Eligible companies under section 135 have undertaken various CSR initiatives within the scope of schedule v11 of the Act.Among the Indian companies which take a lead adopting a multi stakeholder approach, Tata Steel Ltd tops the list followed by Tata Chemicals ltd,Mahindra and Mahindra ltd,Maruti Suzuki and Tata Motors Ltd.Recently Tata Steel has been awarded The Energy and Resources Institute (TERI) award for excellence in adopting sustainable business practices .It is also been honoured with Global Business Coalition Award for its active involvement in business practices for HIV/aids. Mahindra and Mahindra has set up an Education Trust to transform the lives of students through education.its Nanhi Kali project covers around 3300 unprivileged children in rural areas. Dabur 's SUNDESH(Sustainable Development Society) is a pioneer initiative in the field of csr addressing various noble causes like improving healthcare,literavy,environmental sustainability,skill development etc.Itc's one paisa campaign is another revolutionary initiative in CSR domain which donate one paisa from every item sold under its notebook and stationery equipment brand, classmate, to NGOs feeding those who are below poverty line.Almost every corporation today is undertaking social responsibility to build trust and confidence among all its stakeholders.Thus we could say that there is an upswing in the growth of CSR contributions in every industry across the globe.

SUMMARISING VARIED INITIATIVES - 'ROADMAP FOR A STRONG CSR REPUTATION'

The most SUCCESSFUL AND REPUTED firms combine all 4 of these attributes:

ALIGNMENT

- CSR is part of their organizational DNA.
- CSR strategy is aligned and fully integrated into the business model.

LEADERSHIP

- Strong leadership support and buy-in for CSR.
- Leaders are actively leading by example and communicating on CSR.

SINCERITY

- Authentic and genuine programs that reflect corporate heritage and culture.
- Detailed and transparent documentation of CSR programs and performance.
- Focused on true societal impact

ENGAGEMENT

- Employees and other key stakeholders are aware of, engaged in, and share the strategy and goals of the CSR strategy.

INFERENCE

The in-depth analysis of reports released by leading reporting institutes shows that a corporation can do well only by doing good to others.Well reputed companies have proven that they could differentiate their brand,goods and services by working for the well being of the societies and the environment in which they operate.The mandatory 2% requirement brought in by Indian Companies Act 2013 also highlight the growing relevance attached to CSR in India.So it implies that any organisation today has to invest in CSR to build trust and to tap the opportunities for future growth.The study infers that more closely a company is aligned to the social involvement,the better corporate reputation it can achieve in long run.

CONCLUSION

It is evident that CSR has transformed the way the businesses are conducted.Corporate responsibility has assumed greater relevance as it is directed towards conservation of ecosystem and building social infrastructure such that the benefits trickle down at the grassroot level to enhance the lives of people in society. In an award function organised by Industry body Assocham,former President Dr APJ Abdul Kalam said that Corporate Social Responsibility (CSR) activities should be sustainable and help in building capacity. He further elaborated CSR if implemented with sustainability as a focus, then it enhances business sustainability, provides new opportunities, develops customer loyalty and improves stakeholder relationship.Therefore it is the right time for policy makers to act upon a strategic sustainable reporting that amalgamates interest of society,businesses and markets.To achieve sustainable presence in the market,CSR should be at core of corporate strategies,management practices and business operations.

LIMITATIONS AND FUTURE PROSPECTS

The working paper does not elaborate the circumstances when CSR fails to protect reputation. Also the disruptions that may arrive in the normal conduct of business operations as a result of persuing CSR are not discussed.The Reputation Institute has given a ranking of global companies with the best CSR reputation.So a similar study can be done to report top well reputed Indian companies with excellent CSR track record.

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A STUDY ON FACTORS INFLUENCING COMPACT CAR CUSTOMERS IN DECISION MAKING AND BUYING OF COMPACT CAR WITH SPECIAL REFERENCE TO COIMBATORE CITY

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ABSTRACT

In India Compact car business is influenced by the presence of many national and multi-national manufacturers. The presence of many manufacturers and variants within the city provides several decision options to the customers which makes the small car market highly competitive and unpredictable. Customers now search for those differentiating parameters, which may help them to choose among the alternative products available in the market. Most of the factors are uncontrollable and beyond the hands of marketers but they have to be considered while trying to understand the complex behaviour of the consumers. The purpose of this paper is to identify the factors that influence the consumer behaviour with special reference to compact cars and to study the impact of demographic variables and income affecting the vehicle selection of compact cars. The findings of the study can be helpful to marketers in dealing with the customers in a better way.

KEYWORDS
compact cars, consumer behaviour, factors.

INTRODUCTION
Each of us, in some way or the other, is a consumer. The process through which we buy products and services is different for every one of us and for every category of the product. Today's market is driven and dominated by consumers and that is the reason he is considered the King. Thus, the decision of ―to be or not to be of a preferred brand or product‖ depends solely on the choice of consumers. After liberalization and globalization the car industry in India has undergone a phenomenal change. The days of monopoly in the Indian market are over. The small passenger car market has reached a stage which nobody would have dreamt of few years back. The small car industry in India is fast in adapting to the changing times. Compact cars which are a type of small car are looking more beautiful and technologically superior. The increase in the demand for Compact cars can be attributed to the inspirational life style of people which makes them strive for a car early on in life.

COMPACT CARS
Based on Length as per SIAM (Society of Indian Automobile Manufacturers), the Compact Cars are the cars that have the length from 3401mm to 4000mm like Zen, Alto, Santro, Indica etc.

NEED FOR THE STUDY
Consumer buying behaviour is a blend of Economic, technological, political, cultural, demographic and natural factors as well as Customer's own characteristics which is reflected by his attitude, motivation, perception, personality, knowledge and lifestyle. It is only through research that a company will be able to study the buying behaviour of consumers. Thus it is very helpful to determine the factors that impact all aspects of their buying and consuming. The study is valuable for both marketers and small car manufacturers to have a few detailed insights into the factors influencing consumer preference and their purchase behaviours.

STATEMENT OF THE PROBLEM
With the emergence of globalization, liberalization and technological revolution there is a tough competition among the car makers. There is a necessity of purchasing a car among individuals to make their life comfort. "Yesterday's luxurious is today's necessities" - So the purchasing of compact cars for a mid-size family is increasing day-by-day. Due to constant modifications of Car Models and its features in terms of their size, capacity, styling etc. and today we see a new model coming into the market practically every quarter and therefore, it requires the automotive manufactures to understand the consumer's preference on time and take fast actions to reflect market changes quickly. Consumer preference cannot be exactly predicted but can be done to a certain extent with the help of consumer research activity. It is essential for any seller (online or offline) to know something about customer buying habits and who are best at tracking consumer behaviours can retain its customers.

SCOPE OF THE STUDY
It is a well-known fact that with the advent of increasing purchasing power and changing life style towards luxury, now car has become a commodity of necessity and has become one important element of life of even to the middle class people. . Therefore, there is a significant scope to examine the perception, purchase behaviour and purchase decision of the consumers towards cars and also there is a remarkable scope to investigate the impact of factors affecting the today's consumer buying perception and behaviour of passenger cars. The study is restricted to Coimbatore district, which is no doubt an economically richest and cosmopolitan city. Because of their increasing purchasing power, the people have started to buy cars for business or personal use or for prestige and maintenance of social status. This study makes an attempt to investigate the influence of perception in the consumers' mind and how this information can be utilized by

marketers and manufacturers in their favour to win the hearts of the consumers. This literature study tries to review the influence of perception in the consumers' mind and how this information can be used successfully by marketers to gain entry into the mind of the consumers. This literature study also makes an attempt to review the buying decision of the consumers.

REVIEW OF LITERATURE

Following are the some of the review of literature to analyse scientific works by other researchers that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions.

Arpita Srivastava and et al (2014) in his study on Consumer Behaviour towards Passengers Cars in Delhi found that the most important factor that influences the consumer to use passenger car is the price of the cars, social status and durability. They concluded that Customers are purchasing the cars not only as a means of transport but as a status symbol also.

Parasakthi and et al (2014) made a study on Customer Awareness and Brand Preferences towards Small Cars in Coimbatore District and they listed out the factors and reasons that why people prefer small cars and it includes features like compact size with small turning radius, convenient for traffic roads, high mileage. They suggested that some respondents are not aware of few car models, so their advertisements should reach all the people and The main expectation of the young customers in small cars are Stylish look, Good performance, Pick up, Easy maintenance, Different colours etc., Whereas middle age customers prefer Low cost, Good mileage ,Resale value, Easy driving, Brand name, etc and they also suggested that dealers and auto consultancy should provide more information and details regarding each car models in the specific car brands to the customers.

Sriram and et al (2014) in their study revealed that the reference group plays an important role in buying decision of passenger cars. Friends, family and relatives' reference has been found to have significant source of information and influencers in the passengers car buying. The socio-economic factors namely age, marital status, occupation, education, family size and income are being influenced the customers' purchase decision. The customers have bundle of attributes such as good quality, high fuel efficiency, technology, durability, reasonable price, safety and comfort towards local and global branded cars. It is concluded that the manufacturers should redesign their cars by adopting innovative and unique ideas in accordance with the customers' expectations and their socio-economic profile.

Anandh and et al (2014) in their study "Factors Affecting Consumer's Brand Preference of Small Cars" concluded that Value, Comfort, efficiency, accessibility, ambition and need are the factors affecting consumers brand preference of small cars. Therefore, the small car manufacturers should also focus on value-creating activities as such so that consumers will have a better perception of quality of the brand.

Clement Sudhakar and et al (2009) studied the influence of peer group in the purchase of car with reference to Coimbatore District. It was found that the influence of friends is higher for the purchase of small sized and midsized cars.

OBJECTIVES OF THE STUDY

1. To identify different sources of information used by the buyers and their role while making a purchase decision.
2. To identify the factors influencing the customers in selection and purchase of compact car.
3. To associate the effect of Price on consumer buying decision of a passenger car.

RESEARCH DESIGN

The data for the study has been collected from Coimbatore city on convenience sampling method. Field survey was conducted to collect the primary data from 220 respondents through the Questionnaire method with a set of predetermined questions. Statistical tools used to analyse the collected data are ANOVA, f-Test and Chi-Square.

RESULTS AND DISCUSSION

The primary data collected from the respondents are analysed and interpreted below:

TABLE 1: PERSONAL PROFILE OF THE RESPONDENTS

S.no	Particulars		Frequency	Percentage (%)
1.	Gender	Male	120	54.5
		Female	100	45.5
		Total	**220**	**100**
2.	Age	Below 25 years	56	25.5
		26-40 years	72	32.7
		41-60 years	60	27.3
		Above 60 years	32	14.5
		Total	**220**	**100**
3.	Educational Qualification	School Education	80	36.4
		Collegiate Education	100	45.5
		Illiterate	40	18.1
		Total	**220**	**100**
4.	Occupational Status	Business/Profession	64	29
		Government Employee	40	18.2
		Private Employee	56	25.5
		Agriculture	36	16.3
		Others	24	11
		Total	**220**	**100**
5.	Monthly Income of the Family	Below Rs.20,000	20	9.1
		From Rs.20,000-Rs.30,000	28	12.7
		From Rs.30,001-Rs.40,000	44	20
		From Rs.40,001-Rs.50,000	56	25.5
		Above Rs.50,000	72	32.7
		Total	**220**	**100**
6.	Number of Members in Family	2	8	3.6
		2-4	132	60
		Above 4	80	36.4
		Total	**220**	**100**
7.	Type of the Family	Joint Family	84	38.2
		Nuclear Family	136	61.8
		Total	**220**	**100**

Source: Primary Data

The total sample surveyed which consisted of 220 respondents was the car-owners. While analysing the personal profile of the respondents, Table 1 clearly pictures that from the sample size 220, 54.5% of the respondents are male and 45.5% of the respondents are female. In relation to the age of respondents 25.5% are in the age group of below 25 years, 32.7% are in the age group between 26-40 years, 27.3% are in the age group of between 41-60 years, 14.5% are in the age group above 60 years. With regards to educational qualification, 36.4% of the respondents have school level education, 45.5% of the respondents have collegiate education, and 18.1% of the respondents are illiterate. Regards to occupational status 29% of the respondents doing business or profession, 18.2% are government employees, 25.5% are private employee, 16.3% are agriculturist 11% are students, house wife, retired employee. In relation to the monthly family income 9.1% of respondents' family income is below Rs.20,000, 12.7% of the respondents' family income ranges between Rs.20,000-Rs.30,000, 20% of respondents' family income is between Rs.30,001-Rs.40,000, 32.7% of the respondents' family income is above Rs.50,000. With regards to number of members in family 3.6% of the respondents have 2 members in their family, 60% of the respondents have 2-4 members in their family, and 36.4 % of the respondents have more than 4 members in their family. In relation to the type of family 38.2% of the respondents are living as joint family, 61.8% of the respondents are in nuclear family.

It can be inferred that majority (54.5%)of the respondents are male, most(32.7%) of the respondents are in the age group of 26-40 years, most(45.5%) of the respondents are having collegiate education, most(25.5%) of the respondents are private employees, most(32.7%) of the respondents' monthly family income is above Rs.50,000, majority(60%) of the respondents' number of family members are between 2-4, majority(61.8%) of the respondents are living as nuclear family.

TABLE 2: CARS POSSESSED BY THE RESPONDENTS

S.no.	Name of the Car possessed	Frequency	Percentage (%)
1.	Maruti Alto	64	29.1
2.	Maruti zen	36	16.4
3.	Maruti swift	44	20
4.	Tata indica	28	12.7
5.	Hyundai grand i10	16	7.3
6.	Hyundai santro	24	10.9
7.	Others	8	3.6
Total		**220**	**100**

Source: Primary Data

The Table 2 clearly indicates that 29.1% of the respondents own Maruti Alto, 16.4% of the respondents own Maruti Zen, 20% of the respondents own Maruti Swift, 12.7% of the respondents own Tata Indica, 7.3% of the respondents own Hyundai Grand i10, 10.9% of the respondents own Hyundai Santro and 3.6% of the respondents own other type of compact cars.

It can be inferred that most (29.1%) of the respondents own Maruti Alto.

TABLE 3: CAR'S ENGINE TYPE

S.no	Category	Frequency	Percentage (%)
1.	Petrol	72	32.7
2.	Diesel	112	50.9
3.	LPG	20	9.1
4.	CNG	16	7.3
	TOTAL	**220**	**100**

Source: Primary Data

The above table makes clear that 32.7% of the respondents use petrol car, 50.9% of the respondents use diesel car, 9.1% of the respondents use LPG car, 7.3% of the respondents use CNG car.

It is inferred that the majority (50.9%) of the respondents have diesel engine car.

TABLE 4: SOURCE OF INCOME FOR BUYING CAR

S.no	Category	Frequency	Percentage (%)
1.	Cash from own	72	32.7
2.	Loan	148	67.3
	TOTAL	**220**	**100**

Source: Primary Data

Table 4 shows the source of income of the respondents for buying the car. It is evident that 32.7% of the respondents have cash from their own to buy car, 67.3% of the respondents depend on loan for buying a car.

It is inferred that the majority (67.3%) of the respondents depend on loan.

TABLE 5: SOURCE OF LOAN

S.no.	Category	Frequency	Percentage (%)
1.	From bank/Financial institutions	80	54.1
2.	Loan from friends and relatives	28	18.9
3.	Car financing agencies	40	27
	TOTAL	**148**	**100**

Source: Primary Data

From the above table it is vivid that 54.1% of the respondents claim loan from bank or other financial institutions, 18.9% of respondents got loan from friends and relatives, 27% of respondents got loan from car financing agencies to buy the car. It is inferred that the majority (54.1%) of the respondents get loan from bank or Financial institutions.

TABLE 6: SOURCES OF INFORMATION AND INFLUENTIAL FACTORS

S.no.	Category	Frequency	Percentage (%)
1.	Friends, relatives and colleagues	80	36.4
2.	Family members	44	20
3.	TV shows and cinemas	24	10.9
4.	Through sales staff/ personnel	32	14.5
5.	Advertisement	40	18.2
	TOTAL	**220**	**100**

Source: Primary Data

Table 6 shows the various sources of information for the respondents to know about their preferred cars and their influence. For 36.4% of the respondents their friends, relatives and colleagues have been the information source and influential factor for their decision making, for 20% of the respondents their family members, for 10.9% of the respondents TV shows and cinemas, for 14.5% of the respondents sales staff or personnel and for 18.2% of the respondents it has been the advertisement.

It is inferred that for most (36.4%) of the respondents their friends, relatives and colleagues have been the information source and influential factor for their decision making.

TABLE 7: REASON FOR PREFERRING COMPACT CARS

S.no.	Particulars	Frequency	Percentage (%)
1.	Cannot afford the cost of large size cars	68	30.9
2.	Compact car is enough for our family	40	18.2
3.	Using compact cars is more economical	48	21.9
4.	Ease to use in congested areas with heavy traffic and parking problem	32	14.5
5.	Having the car in compact size is mere pleasure	32	14.5
	TOTAL	**220**	**100**

Source: Primary Data

The above table depicts the various reasons of the respondents to choose compact type of cars. It can be seen that 30.9% of the respondents selected compact type of car because they cannot afford the cost of large size cars, 18.2% of the respondents feel that compact car is enough for their family, 21.9% of the respondents feel using compact cars is more economical, 14.5% of the respondents feel it is easy to use compact cars in congested areas with heavy traffic and parking problem, 14.5% respondents feels that having compact car is their pleasure.

It is inferred that the most (30.9%) of the respondents they cannot afford the cost of large size cars.

TABLE 8: RANK OF FACTORS INFLUENCED TO BUY PARTICULAR BRAND CAR (N=220)

Factors	I rank	WS	II rank	WS	III rank	WS	IV rank	WS	V rank	WS	VI rank	WS	VII rank	WS	VIII rank	WS	IX rank	WS	X rank	WS	TWS	Rank
Quality (durability/ reliability)	80	800	44	396	20	160	12	84	12	72	8	40	16	64	12	36	8	16	8	8	1676	**II**
Interior/ exterior (style, shape, size, colour)	12	120	24	216	48	384	32	224	24	144	32	160	24	96	12	36	8	16	4	4	1400	**IV**
Brand name/ image	32	320	48	432	72	576	12	84	16	96	8	40	12	48	8	24	8	16	4	4	1640	**III**
After sale services	8	80	4	36	8	64	20	140	8	48	4	20	16	64	24	72	84	168	44	44	736	**IX**
Dealer proximity	4	40	8	72	4	32	8	56	16	96	4	20	4	16	16	48	32	64	124	124	568	**X**
Comfort luxury	8	80	4	36	8	64	24	168	36	216	72	360	4	16	20	60	16	32	8	8	1040	**VI**
Resale value	4	40	4	36	4	32	16	112	12	72	24	120	32	128	76	228	36	72	12	12	852	**VII**
Mileage	64	640	72	648	12	96	20	140	8	48	4	20	16	64	16	48	4	8	4	4	1716	**I**
Financing schemes	4	40	4	36	8	64	28	196	24	144	48	240	64	256	20	60	12	24	8	8	848	**VIII**
Power and fuel efficiency	4	40	8	72	36	288	48	336	64	384	16	80	12	48	16	48	12	24	4	4	1272	**V**

Source: Primary Data

Note:

a) First Rank has been given a score of 10, II Rank -9, III Rank- 8, IV Rank - 7, V Rank -6, VI Rank - 5, VII Rank -4, VIII Rank -3, IX Rank -2 and X Rank- 1.

b) WS denotes weighted scores.

c) Ranking was done on the basis of Total Weighted Scores (TWS).

In order to find out the basis of selection of the cars among respondents, Ten factors have been considered such as Quality (durability/ reliability), Interior/ exterior (style, shape, size and colour), Brand name/ image, After sale services, Dealer proximity, Comfort luxury, Resale value, Mileage, Financing schemes and Power and fuel efficiency. Respondents were asked to rank all the above mentioned factors. The data collected have been presented in the Table 8. It is clear from the table that the large number of respondents has given First rank to Mileage, Second rank to Quality (durability/ reliability), Third Rank to Brand name/ image, Fourth rank to Interior/ exterior (style, shape, size and colour), Fifth rank to Power and fuel efficiency, Sixth rank to Comfort luxury, Seventh rank to Resale value, Eighth rank to Financing schemes, Ninth rank to After sale services and finally Tenth rank has been given to Dealer proximity.

TABLE 9: PRICE PLAYS A SIGNIFICANT ROLE IN BUYING A CAR

S.no.	Particulars	Frequency	Percentage (%)
1.	Yes	188	85.5
2.	No	32	14.5
	TOTAL	**220**	**100**

Source: Primary Data

The above table shows that 85.5% of the respondents feel that price plays a significant role in decision making in buying car whereas 14.5% of the respondents feels price does not play a significant role.

It is inferred the majority (85.5%) of the respondents feels that price plays a significant role in decision making and buying of a car.

STATISTICAL ANALYSIS

ANALYSIS OF VARIANCE – ONE WAY CLASSIFICATION MODEL

Analysis of variance is used to test the effect of independent factors on response variable of interest. Let us take the hypothesis that there is no significant difference between respondents' monthly family income and their reason to buy compact car.

Applying analysis of variance technique, we get the following:

TABLE 10: ANOVA ONE WAY CLASSIFICATION TABLE

Source of variation	Sum of squares	Degrees of freedom	Mean squares	Ratio of f
Between samples	179.2	4	44.8	
Within samples	620.8	20	31.04	1.443

The table value for degrees of freedom are 4 and 20, at 5% level of significance is 2.87. The calculated value of **f** is less than the table value. Hence the Hypothesis is accepted and it can be found that the difference between the respondents' monthly family income and their reasons to prefer compact cars is not significant.

CHI-SQUARE

Chi-Square tool is applied on assuming the null hypothesis that the opinion of the respondents about the price's role is independent of the occupational status. The hypothesis is tested by Chi-Square as given below:

TABLE 11: OPINION ABOUT THE ROLE OF PRICE AND OCCUPATIONAL STATUS

Role of price	Business/ profession	Government employee	Private employee	Agriculture	Others(student, house wife)	Total
Yes	52	32	52	32	20	188
No	12	8	4	4	4	32
Total	**64**	**40**	**56**	**36**	**240**	**220**

Source: Primary data

APPLYING CHI-SQUARE TEST

TABLE 12: OPINION ABOUT THE ROLE OF PRICE AND OCCUPATIONAL STATUS

x^2 value	Degrees of freedom	Table value	Significance
4.816	4	9.49	NS

Level of significance: 5%

Since the calculated value of Chi-Square (4.816) is less than the table value (9.49) the null hypothesis is accepted and it can be concluded that the opinion of the respondents about the price's role is independent of the occupational status.

F-TEST

F-test is used to find out whether the two independent estimates of population variance differ significantly or not. Here f-test is applied to know the significant difference between gender of the respondents and their reasons to prefer compact cars. On assuming the null hypothesis that the two groups have the same variance, the test is applied.

TABLE 13: GENDER AND REASONS TO BUY COMPACT CAR

Gender	High cost of large cars	Enough for our family size	More economical	Easy to use	Having the car compact size is mere pleasure	Total
Male	48	20	16	24	12	120
Female	20	20	32	8	20	100
Total	**68**	**40**	**48**	**32**	**32**	**220**

Source: Primary data

TABLE 14: GENDER AND REASONS TO BUY COMPACT CAR

Value of F	Table value	Significance	Level of significance
5.288	6.38	NS	5%

From the table above, it is evident that the calculated value (5.288) of F is less than the table value. Hence we can accept the hypothesis and conclude that the difference in the variance of two groups is not significant at 5% level.

KEY FINDINGS

The following major findings can be inferred from the study:

- ✓ Majority (54.5%) of the respondents are Male.
- ✓ Most (32.7%) of the respondents are in the age group of 26-40 years.
- ✓ Most (45.5%) of the respondents finished collegiate education.
- ✓ Most (25.5%) of the respondents are Private employees.
- ✓ Most (32.7%) of the respondents' monthly family income is above Rs.50, 000.
- ✓ Majority (60%) of the respondents' number of family members are between 2 and 4.
- ✓ Majority (61.8%) of the respondents are living as nuclear family.
- ✓ Most (29.1%) of the respondents own Maruti Alto.
- ✓ Majority (50.9%) of the respondents consume diesel engine car.
- ✓ Majority (67.3%) of the respondents depend on loan for buying the car and majority (54.1%) of the respondents got loan from bank or Financial institutions.
- ✓ For most (36.4%) of the respondents their friends, relatives and colleagues have been the information source and influential factor for their decision making.
- ✓ Most (30.9%) of the respondents prefer compact cars because of the reason that they cannot afford the cost of large size cars.
- ✓ Majority (85.5%) of the respondents feels that price plays a significant role in decision making and buying of a car.
- ✓ As foremost important factor, mileage has been given the first rank by the respondents.
- ✓ Using ANOVA technique, it is proved that the difference between the respondents' monthly family income and their reasons to prefer compact cars is not significant.
- ✓ On applying Chi-Square test, it is found that the opinion of the respondents about the price's role in decision making is independent of the occupational status.
- ✓ With the help of f-test, it is concluded that there is no significant difference between the gender of the respondents and their reasons to prefer compact cars.

SUGGESTIONS

From the above findings a significant amount of suggestions can be drawn for the goodness of the car manufacturers to identify their customers. From the overall study it is highly evident that price of the car plays a crucial role in decision making of buying the car. So the car companies should be very cautious in deciding the price in such a way their customers are satisfied and equally it shouldn't bite their profit. Irrespective of the range of the income, most of the respondents prefer to buy the cars by way of loan, so a good financing scheme by the car companies can also increase the turnover of their sales. Mileage has been registered as an important factor by the respondents for selecting a compact car and therefore the manufacturers should focus on building a good mileage for their vehicle.

CONCLUSION

The study brings out some important factors considered by the consumers in their decision making of buying a car. Factors like Mileage, Quality and Brand Image etc. mostly influence the selection of car. So the compact car manufacturers have to analyse all these factors and find out the best suitable tools for promoting their cars in India. The investigation of the paper has also revealed that Friends, family and relatives reference has been found to have significant source of information and influencers in the compact car buying. There is always a craze on compact cars for all people, as it gives lot of features like compact size with small turning radius, convenient for traffic roads, etc. With better understanding of all the above customer's perceptions, companies can determine the actions required to meet the customer's need speedy and effectively.

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IN SEARCH OF EXCELLENCE IN SOFTWARE DEVELOPMENT PROJECT: A STUDY

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ABSTRACT

Methodologies developed for use in western countries may not be totally suitable for developing countries. The selection of appropriate software development methodologies for a given project, and tailoring the methodologies to a specific human culture have been dealt with since the establishment of software development as a discipline. Nowadays, the nature of the projects has changed to be unique, uncertain, complex and innovative. It becomes hard to plan in advance the project development, as deviations from plans and unpredictable changes occur more frequently. This can be specifically observed in the software development industry which needs to constantly meet customers' rapidly changed requirements. Therefore, it becomes important and necessary for company management to know how to select a suitable method for the new software development project to get the maximum benefits. This paper reports on how we can understand and support the software projects development, project planning based on a literature study and an industrial study. The main emphasis of the study was on how to support the management of software development projects. Contemporary literatures on software project are reviewed and presented. The objective of the paper is to improve the management practices of software development project.

KEYWORDS
software projects, project management, software engineering, software cost estimation, software development management, project success, project planning.

1. INTRODUCTION

Software Engineering is a field without too much historic background since it is less than four decades old. Software engineering covers the development of software systems. Software engineers focus on applying systematic, disciplined, and quantifiable approaches to the development, operation, and maintenance of software.

Software Projects are discrete but multidimensional activities that serve as vehicles of change. However, it is not easy to develop a consistent view of the problem because of this multidimensionality. In the drive toward formalizing software project management as a distinct discipline, there has been much discussion on the nature and definition of project success, but no consensus has emerged.

In software development, testing and maintenance, as in other large scale engineering activities, effective project planning is essential. Failure to plan and/or poor planning can cause delays and costs that, given timing and budget constraints, are often unacceptable, leading to business – critical failures.

Traditional tools such as the Project Evaluation and Review Technique (PERT), the Critical Path Method (CPM), Gantt diagrams and Earned Value Analysis help to plan and track project milestones. While these tools and techniques are important, they cannot assist with the identification of optimal scheduling assignment in the presence of configurable resource allocation.

Software engineering literature like Roger, 2005 and Sommerville, 2010 focuses on project management and effort concepts, but the emphasis is on effort estimation and effort related planning (e.g., scheduling) rather than on the total management of effort. Effort has not been seen as an independent area of management like risk or quality. Literature discusses risk management, quality management and configuration management individually but effort is covered as a part of software project management.

Project planning has become of great importance for software development, which has forced the industry to make fundamental changes of the planning paradigm. Planning begins with requirements that define the product and project.

Research points out that an important factor in project success is thorough planning in the early stage of the project life-cycle(Mantel et al., 2001). Some argue that too much planning may endanger the project(Meredith and Mantel, 2009) and moreover claim it may obstruct creativity(Dvir et al., 2003). However, although planning does not guarantee success, at least a minimum degree of planning is required, since lack of planning most likely will guarantee failure.

When project managers and project teams are engaged in day-to-day project execution, they typically are not focused on the business aspects. Their focus and attention, rather, is operational, and their mindset is on "getting the job done." While this mindset may focus on doing the job efficiently, i.e., not waste time and money, it may lead on to disappointing business results and even failure. Moreover, current study aims at analyzing the software project development, planning and success. The research is based on both literature reviews and software industry studies. The objective of the paper is to improve the management practices of software development project.

2. LITERATURE REVIEW

2.1. SOFTWARE CRISIS

This term refers to the problems in the early history of software development when programs were developed following unsystematic and random methods. As the programs became more complex more programmers would be added and the results were: late delivery of software, software not meeting the intended needs, programs not adaptable to changed circumstances, and many errors were detected after product delivery, which led to difficulties in maintaining software. These problems were referred to as the software crisis, (Friedman, 1989; Van Vliet, 2003; Olerup, 1991; Yeh, 1991; Pressman, 2000; Brooks, 1987; Naur,1996;Glass, 1998; and Shemer, 1987).

The software crisis spanned over three decades from the 1960s to the 1980s during which some projects resulted in huge overspends, wasted money, unacceptably long development timeframe, caused property damage and a few projects caused loss of life, (Glass, 1998; Bryant, 2000 and Brooks, 1987). Some used the term software crisis to refer to their inability to hire qualified personnel. The software crisis was originally defined with regard to productivity, but evolved to emphasize quality, (Glass, 1998;Bryant, 2000 and Brooks, 1987). The software crisis not only refers to problems associated with approaches to developing software but also includes the broader aspects of how to maintain software. Efforts towards solving these problems led to the birth of a new discipline called Software Engineering ascribed to the 1968 NATO Software Engineering Conference held in Garmisch, Germany. The rationale behind the engineering solution was to develop a set of standards that would regulate the approach to developing software. A methodology called the Waterfall Model, also commonly known as the Classical Software Engineering Paradigm, SDLC (Software Development Life Cycle) was developed.

According to Boehm and Turner (2004) the strengths of the SDLC lie in concepts such as *process improvement, processcapability, organizational maturity, process group,* and *risk management* as explained below:

- *Process improvement* –a set of activities designed to improve the performance and maturity of the organization's processes.
- *Process capability* –the natural ability of a process to produce planned results. Process capability leads to process predictability and measurability, which results in effective elimination of causes of poor quality and productivity.
- *Process predictability* is a highly debatable concept because some in the methodology fray consider it a limitation instead of a point of strength.

- *Organizational maturity* – refers to the organization's ability to apply common standard processes across the organization.
- *Process group* – a collection of specialists that facilitate the definition, maintenance, and improvement of the processes used by an organization.
- *Risk management* – an organized, analytic process to identify uncertainties that might cause harm or loss.
- *Verification and validation* – verification is concerned with technical details of whether the product meets the specification as detailed in the functional and non–functional requirements, in other words the product has been built the right way. Validation is less technical and it aims at ensuring that the product does what the customer wants it to do, in other words the right product has been built (Sommerville, 2004). These two checking and analysis processes generally reveal product defects.

Schwaber and Beedle (2002) argue that defined and repeatable processes only work for tackling defined and repeatable problems with defined and repeatable people in defined and repeatable environments, which is not possible in today's fast changing business environments. The essence of the problem is that traditional software engineering is based on repeatability that was derived from the other engineering disciplines such as civil, electrical and mechanical where repeatable processes are not only possible but are a virtue. However, issues of software development are different in two ways:

- **Aesthetically** – in the traditional engineering fields for example a draughtsman may design and draw the diagrams for a bridge but he/she will not necessarily build the bridge. Yet in software development it does not work well if the designer is not the programmer (Beck, 1999).
- **Application area** – the requirements for building a bridge would not normally change, but the business environment for which software is built are always changing.

The limitations of the classical software engineering paradigm are rooted in sequential thinking which focuses on the activities presumed to be necessary to produce a result and assumes that one has nothing to learn so that each activity can be completed in sequence, (Larman, 2004 and Hoffer, George and Valacich, 2004).

The paradigm therefore tends to be predictive and assumes that business requirements can be accurately predicted. Therefore some techniques have been developed since the early 1980s to try and predict requirements and control their stability, (Davis, 1980). To try and solve some of these problems many methodologies emerged from the early 1970s up to this age. The emergence of methodologies led to a new challenge of finding the best methodology for a given situation, which is usually called the methodology jungle. Despite the tremendous growth in the discipline of software engineering, the irony is that the problems that led to the software crisis still remain though in relatively smaller percentages as confirmed in the CHAOS report of the Standish Group International (1994) and the subsequent reports. Details of problems that led to the software crisis are well documented in (Pressman, 2000; Brooks, 1987; Naur, 1996 and Shemer, 1987).

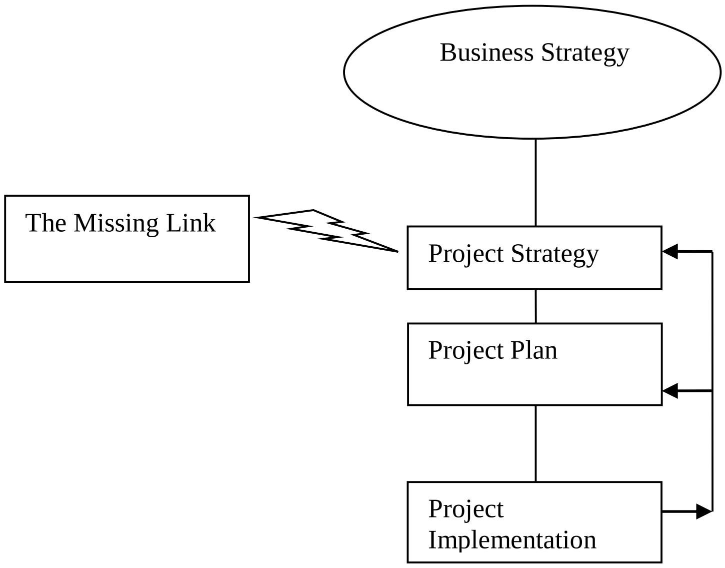
This section summarized literature on the software crisis. The general tone of published research on the software crisis is that the software crisis problems found in the nineteenth century are still the same as those of the twenty–first century. There is in fact a fundamental difference because over the past two decades or so (1980s to 2000s) a lot of maturity in terms of planning and management has been introduced into software engineering from both teaching/training and practice. This kind of growth has resulted in the delivery of high quality software which is also very complex. Therefore maintenance problems of the 1980s are different from maintenance problems of the 2000s hence the original definition of software crisis may not be relevant to the situation of the 2000s. Innovations to the existing software technologies continue to improve on the quality of software engineering.

2.2. STRATEGY IN SOFTWARE PROJECT

Projects are defined as temporary organizations and processes that have been set to achieve certain goals under the constraints of time, budget, and other resources. Projects conceive of goals, structures, processes, and of course resources. Unlike on-going operations, each project is unique, and to some extent, "first of its kind." Furthermore, projects are initiated to implement business, corporate, or organizational goals into action.

They are the vehicles with which organizations execute their strategies, things get done, and decisions are being implemented. One may ask then, do we need to deal with a concept called project strategy? Typically, most projects would start with a project plan. The plan normally includes the project goal, project scope, project deliveries, project milestones, project resources, and activities for execution. Also typically, projects are initiated as part of a grand-plan, which is consistent with business strategy and conceived at the corporate or business unit level. While some projects do better than others, conceptually, there is a missing link – between the business strategy and the project plan. We call this link the *project strategy* (Figure 1).

FIGURE 1: PROJECT STRATEGY – THE MISSING LINK



Project strategy is defined as the project perspective, direction, and guidelines on what to do and how to do it, to achieve the highest competitive advantage and the best project results. With this definition we could suggest that project strategy is a combination of elements, some of them taken from Mintzberg's five "P" framework. First, it is a perspective. The perspective creates the proper view and approach to the project. But strategy is also the direction and guidelines, which will define the path to take and will direct behavior. The perspective and guidelines are used to select the project product, the *"what to do"* part, and to decide on ways of action, namely, the *"*how to do." And finally, strategy is the position we wish to accomplish, namely, the *"*competitive advantage*"*.

2.3. PROJECT PLANNING

A project may be defined as a planned undertaking, designed to achieve certain objectives within a given budget and within a specific time interval. The Project Management Institute (PMI) defines a project as a "temporary endeavor undertaken to create a unique product or service". The words "temporary endeavor" implies that the efforts are time limited. A project is a set of limited resources, such as time, people, knowledge, money etc. and project planning is the key element to obtain control and utilization of these recourses, in the best possible way, in order to ensure fulfillments of the project objectives. There is no single reason for a software engineering project to have a project plan. A project plan usually contains several parts produced in order to help the project team with their project. The main objectives with a project plan are the following:

- Guide project execution
- Document project planning assumption
- Document project planning decisions regarding alternatives chosen
- Facilitate communication among stakeholders
- Define key management reviews as to content, extent, and timing
- Provide a baseline for progress measurement and project control

The project plan is generally developed in the initial phase of the project and needs to be reviewed and agreed upon by all concerned persons. However, the plan is expected to change over time and is updated each time the actual progress differs from the plan or when project conditions changes, which require new approaches (Sommerville, 2010). A carefully prepared project plan if properly followed and committed to, should lead to a successful project and eliminate many of the pitfalls inherent in the project management process. It provides leadership vision and facilitates for management to utilize available resources efficiently.

In addition to the main software project plan, different types of specific plans may be developed to support the main plan in different areas. Example of such plans may be the following(Sommerville, 2010):

- Quality plan - Includes the quality procedures and standards that concern the project.
- Validation plan - Covers approaches, resources and schedule involved in the system validation.
- Configuration management plan – Consists of the configuration management procedures and structures to support the project.
- Maintenance plan - Predicts the maintenance requirements, maintenance costs and the effort required.
- Staff development plan - Includes how available skills and experience will be developed.

The main project plan may be of various forms. Summarized below is a gist of what Project Management Institute (PMI) and Sommerville, 2010 put emphasis on:

1. Scope and Objectives - The scope and objectives of the project are generally set by extracted requirements. The scope is a statement defining the project and its deliverables and should clearly and concisely state project information such as, what it is, what it does, how much it will cost, and when it will be delivered. The project scope has strong relationships to the project schedule and involved resources. Thus, modifications of the project may also affect the project scope.

2. Work Breakdown Structure (WBS) - A WBS is a deliverable-oriented grouping of project components that organizes and defines the total project scope. Thus, the WBS divides the total scope into major work packages, which are further subdivided into manageable work items to be accomplished in order to finish the project.

3. Budget and Schedule - The budget and schedule of the project are based on established estimates [PMI]. Schedule development implies to determine start and finish dates for concerned project activities, which for example may be performed through simulations or mathematical analysis [CMMI, ver.1.1]. The schedule may be presented by Gantt charts, milestone charts, etc. and may be supplemented by supporting detail documents that include identified assumptions and constraints [CMMI, ver.1.1]. Cost budgeting implies to allocate the overall cost estimates to individual work items. The budget should be based on and supported by the WBS, project schedule, and the cost estimates [CMMI, ver.1.1].

4. Risks - Planning for project risks should address issues that could jeopardize accomplishment of critical project objectives. The planning process involves identifying project risks, quantifying the risks, and developing risk responses.

5. Monitoring and Reporting Mechanisms - The purpose of monitoring mechanisms are to provide an understanding of the project progress in order to take appropriate corrective actions if project performance deviates from established plans. Monitoring involves monitoring actual values of planning parameters, such as cost, effort, and schedule. These values are compared to the estimates and possible deviations are identified [CMMI, ver.1.1]. Reporting mechanisms are concerned with collecting and disseminate performance information in order to provide involved stakeholders with status, progress and information about how resources are used to fulfill established objectives.

6. Resources - The resources and quantities required in order to carry out the project should be identified and described [CMMI, ver.1.1]. Project resources come in various forms such as, personnel, funds, equipment, facilities, material, information etc. and the selection of these resources should be based on the established estimates. Establishing resource requirements allow for several benefits such as, identification of resource shortage, identification of feasibility problems due to resource conflicts, etc. [Mantel S, 2001].

7. Knowledge & Skills - Planning for knowledge and skills involves both training of project team and acquisition of knowledge from external sources. The knowledge and skills required to execute the project should be identified and the currently available knowledge and skills should be assessed. With this information available, the deficiency of knowledge and skills is identified and mechanisms for providing this knowledge and skills are selected.

8. Stakeholder Involvement - Stakeholders involved in the project should be identified and their functions requiring representation in the project should be defined. Furthermore, the level of interaction and the relevance of each involvement should be described. An appropriate technique to handle this effort is to develop a two-dimensional matrix with stakeholders along one axis and project activities along the other axis [CMMI, ver.1.1].

As stated above, current subjects are recommended by [CMMI, ver.1.1], Furness, 2001 and Sommerville, 2010. Obviously, a project plan may take various forms depending on the needs and purpose. The project plan is obviously developed when the developer has reached an agreement with the customer. Prior to such an agreement, the supplier must be certain that they are capable of undertaking a project. If the supplier doesn't possess the knowledge, skills or time to undertake the project, it's a waste of time to initiate negotiations with the customer. To find out whether this is the case or not, effort and time estimates must be established. When this is settled and negotiations are initiated, the supplier must come up with a reasonable price for the product. The price must be compatible, cover the development costs and furthermore generate a desirable profit. In order to achieve this balance the project costs must be estimated. With all the estimates at hand, it's possible to establish the project scope, a schedule and budget, resources required, and knowledge and skills required.

2.4. PLANNING MANAGEMENT

Project planning management is something that is involved during the entire project. Project plan, estimations, risk planning is typical things that the project manager or managers is in-charge of. Project management includes numerous important responsibilities and project planning is of course one of them. Project management is the application of knowledge, skills, tools and techniques to project activities in order to meet the stakeholders' needs and expectations from a project (Furness, 2001). To meet stakeholders' needs and expectations involves numerous demands, such as scope, time, cost, quality and integration. To give the project a strong foundation, the project manager must conduct a sufficient research in order to take care of the planning. But is it up to the project manager to solely take care of all planning? Of course not, the project manager may involve experts within the company as well external to the company. But how to deal with this is not obvious.

A project manager's overall responsibilities can be defined as bring a project completion on time, within the budget cost, and to meet the planned performance or end-product goals [Simpson WD, 1987]. The project manager has responsibilities towards his project group, top-management, sub-contractors and of course, the customer.Without a satisfied customer, the top-management will not be pleased. This chain of command is usually described in the organizational structure at software engineering companies. Modern project manager's works hard in order to reach the end-product goals in a rewarding manner, often with clear product goals well defined in advance (Dvir et al., 2003, Tzvi Raz, 2003).

A project manager has, quite naturally, the main responsible for planning the project. However, the project manager must plan enough in order to reach a successful outcome. But, how do you know, as a project manager, when it's enough? Who can say that anything is good enough planned?

According to most project managers it is impossible to know. Further, researches (Dvir et al., 2003, Tzvi Raz, 2003) state that too much planning can obstruct creativity and the quality of the product can suffer. At the same time, the lack of planning will, most definitely, guarantee failure. The success of a software project very much relies on good management and control system which allows development to satisfy the project objectives.

2.5 PROJECT ORGANIZATIONAL STRUCTURE

Since the software engineering industry has grown enormously the last two decades, the organizational structure in well-established companies has changed a great deal. From small underground projects with one or a few persons implementing rather small applications, to huge international companies with a turnover of billions of dollars. Apple and Microsoft are examples of such companies. Still, the organizational view of software companies has, quite logically, many different views. The organization in a company can be described as a system of human and physical elements interacting to achieve various goals.

Further, M. Nicholas states that there are two kinds of organizational structures. One is the formal structure, which is the official and documented structure and describes who's in charge, chains of command, divisions, groups and people and how they are supposed to relate. The informal structure on the other hand, is the structure that describes personal relationships, communication and interaction between involved stakeholders. It can also be described as how they want to relate.

However, project organizations can also be divided into internal and external structures. The internal project structure includes the interfaces among the units of the software development team. Depending on which developing model or specific process model they choose to work with, the structure looks a bit different. However, certain groups or responsibilities are rather general in all software development. Naturally, a project manager has the overall responsibility, but a project team could have several other managers. The most common are configuration manager, quality manager, test manager, security managers and architecture manager. Thus, how does the organizational structure affect project planning and is it possible for a project manager to affect the people responsible for required resources? This differs of course a lot from company to company.

However, according to Nicholas, it is very rare that project managers have anything to say about the organizational structure. However, it is possible for the project managers to come with recommendations, which the top-management should take into account. This organizational structure may help or hinder the project managers in the planning phase. Depending on the resources assigned to the project manager in the research phase the planning outcome may vary a lot. Since project planning is both considered difficult and important, we believe that it is important for the top-management to listen to the project managers demands and wishes in the initial planning phase. This influence on the resources that are being assigned to the project and with a lack, or abundance, of resources this may lead to project failure.

This is probably one of the largest problems for top-management in the software industry since it is very difficult in the initial planning stage to state what are all the activities are and how they need to be carried out in order to complete the project, and what their cost and duration parameters are.

2.6. PROJECT SUCCESS

According to De Wit, 1988, success means different things to different people. This statement is confirmed by several suggested assessment approaches, which all recommends different success factors to measure. For example, Parviz F. Rad suggests that the success attributes may be categorized into "Things Related Attributes" and "People Related Attributes". Attributes related to "things" are scope, quality, schedule, and cost whereas attributes related to "people" are team morale and client satisfaction. De Wit, 1988 suggested that the following seven dimensions should be considered when determining project success: efficiency of execution, personal growth, managerial and organizational implications (including customer satisfaction), technical performance, and manufacturer's ability and business performance.

There are several factors that contribute to a successful project. It is important to explore how success is defined, both in literatures and industry. Current section is devoted to give a brief outline of how the literatures define project success and how success is measured.Success may be defined as an achievement of something desired, planned, or attempted. Thus, success is a result of achieving known objectives in order to satisfy a certain need or want. A project is consequently considered successful when its objectives are fulfilled [M. Nicholas]. Project objectives may involve multiple dimensions, such as time, cost, quality etc. However, although this is a quite common definition of project success and moreover corresponds to the reality in some cases, there are many examples where this definition is not enough(Shenhar et al., 2001). These examples show that despite extensive delays and overruns, the project outcome may be a great business success(Shenhar et al., 2001). Usually, project management is forced to make certain trade-offs which may affect established objectives, but if these trade-offs are mutually agreed upon by involved stakeholders, the project may still be successful [M. Nicholas]. An example is the Sydney Opera House, which took three times longer than planned and cost approximately five times higher than expected(Shenhar et al., 2001). Today the Opera House is Australia's most famous landmark. Another example is the first Windows software by Microsoft, which suffered from extensive delays and required additional staff to complete (Shenhar et al., 2001). Today, 90% of all PCs use the Windows operating system.

Research has proven that if a mutual agreement among involved stakeholders exists about how to judge project success, the likelihood for success is maximized(Turner, 2008). If such agreement doesn't exist, the likelihood that different stakeholders exploit the project to achieve their own objectives is maximized(Turner, 2008).

2.7. PROJECT MANAGEMENT SUCCESS

The classic criterion from practice is a measure of the immediate performance of a project against its main design parameters—schedule (time), budget (cost), scope, and/or quality which the literature tends to call a measure of *project management success*. This definition was already established in the earliest discussion of projects in the management literature. Gaddis, 1959 defined a project as "an organization unit dedicated to the attainment of a goal—generally the successful completion of a developmental product on time, within budget, and in conformance with predetermined performance specifications". In the three-element form, this criterion is variously called the triple constraint, iron triangle, or three-legged stool of project management. Other variants include all four elements as the project diamond or four-legged stool.

Scope is less clearly defined than time or cost, referring to the extent to which the main deliverable was completed against specification or whether all intended activities and phases of the project were completed. Quality is often assessed, *post hoc*, against established industry or subjective criteria. The conventional approach is that an assessment of performance is made in a post project review based on whether the project was completed "on time, within budget and to specification". If each was achieved within anarrow range of tolerance then the project is deemed a success. This criterion is of particular interest to stakeholders with vested interests in the project vehicle itself, such as the project manager, project team, and project governance stakeholders.

This classic criterion remains the most widely used measure of project success. Its main value is in offering a simple, direct measure of performance of a project and the project management expertise applied to complete the project within the bounds of the most immediate design parameters (time, cost, and scope). However, it has major limitations. Most critically, it focuses on the *means* rather than the *ends* of the investment from the organizational perspective. It takes limited or no account (depending on how scope is defined and measured) of whether the main project deliverable fulfilled the purpose for which it was intended and whether the objectives of the project's investors were achieved. For example, it is not unusual, especially in Information System projects, for a project that is late, over budget and/or under-delivered against specifications to be declared a success, because it still delivered a benefit to the client/users and/or to the investing business.

3. RESEARCH METHOD

This paper reports on how we can understand and support the software projects development, project planning based on a literature study and an industrial study. The paper is based on both literature reviews and software industry studies. The main objective with this paper is to describe, analyze and understand the software project development practices in literature as well as software industry. The software industrial studies are based on different research data of software companies and conducted interviews among all involved stakeholders. Interviews is a quite straight-forward and non-problematic research approach in comparison to other research methods, such as observations, experiments, simulations etc. It's an appropriate research method to use when time and other resources are limited. Interviews are quite flexible in the way that it allows the interviewer to ask resulting questions, modify the line of enquiry, follow up interesting responses and explore underlying motives [Robson, Colin, 1993].

The interviews are based on two different interview styles. The first part of the interview is a so-called unstructured interview [Robson, Colin, 1993]. By this way, the risk of missing valuable information is reduced, since the interviewees are able to talk freely about the subject and are not obstructed by any pre-defined agenda.

The second part is a structured interview, which means that the interview is based on a pre-determined set of questions [Robson, Colin, 1993]. By using this approach we are able to ensure that required information is retrieved.

4. DISCUSSION AND CONCLUSION

Many projects in the computer industry have failed to achieve their objectives due to lack of managerial skills. Considering the following circumstances:

- Project objectives are poorly defined and/or understood, even by the members of project team,
- Project deadlines are dictated by external events or imposed arbitrarily by administrator.
- Project budgets are based on naive estimates given by inexperienced managers.
- Project staffing is determined more by availability than ability.

The outcome of projects launched under such circumstances is easily predicted. Managing a well-planned and well-staffed project is challenging. Many engineering managers came to management through the technical ranks. Although they may have had plenty of engineering training and mentoring, they frequently learn management skills the hard way, through trial and error. Managers have two primary jobs: to get the best work out of the people who work for you and to create an environment that enables people to get work done (so they can do their best work). It's Always the People-Help People do Their Best Work.

Software project planning is today an extensive and central component in software development. Project planning has become of great importance for software development, which has forced the industry to make fundamental changes of the planning paradigm and moreover, that thorough planning in the early stage of the project life-cycle is an important factor in project success. The result of the interviews conducted at different software companies indicated that these statements are credible. 80% of the interviewees claim that project success increase in proportion to the amount of effort invested in project planning. The most common problems in project planning are to develop accurate estimates and to handle external influences and dependencies. Project estimation is a common problem since the software developer often faces unknown domains, new technologies and other complexity issues. If the developer should produce the same product over and over again, estimation would be a lot easier. Our investigations correspond to the literatures when it comes to estimation techniques; expert judgment is without a doubt the most commonly used method to develop estimates. This is quite logical, since current method is very simple and cheap and often bases the estimates on in-house knowledge and experience.

Dvir et al., 2003 uses three different success criteria in his article. These criteria are meeting planning goals which measures success at the project manager level, end-user benefits which measures success from the end-user point of view and finally contractor benefits which measures success at the contractor's level. Shenhar et al., 2001, Dvir et al., 2003 and Levy uses 13 success measurements divided into four sections: Meeting planning goals, Benefits to the customer, Commercial success and future potential. Other interesting material within the project success area is presented by J. Drew et al. They state in their report that project managers can make more efficient and effective projects if they detect high-risk elements early.

The companies we interviewed invest in between 25% to 80% of the total project effort in project planning. Obviously, this quite large gap is a result of different environments, conditions and project characteristics, such as complexity, size, resources, assets etc. According to the interviewees, project planning gets harder and requires more effort the more complex a project is and a project obviously becomes more complex the more complicated the mission is. Thus, development of complex software is hard to plan for and require more planning efforts. When analyzing the results of the interviews, we have identified software complexity to be the source to all planning difficulties and the most critical factor in order to achieve adequate project planning.

According to the research outcome, software complexity originates from several sources. One of the reasons for complexity is that the software engineering is a quite new and immature discipline, which implies lack of experience and usage of undeveloped technologies and methodologies. This is also confirmed by several credible sources, such as SEI (Software Engineering Institute), SWEBOK (Software Engineering Body of Knowledge). The quite low age of the industry also implies little consensus and few standards. According to the interviewees, misinterpretation of requirements is quite common and may have severe consequences.

The research shown that the industry and the literatures, roughly, have the same view on the project plan. According to the interviewees, a project plan should mainly consist of the following: Project scope, Project objectives, WBS, Schedule, Budget, Possible risks, Resources required, Skills and knowledge required, Project dependencies. The literary study also includes such as Monitoring and reporting mechanisms, Stakeholder involvements. Many of the interviewees state that they put a lot of effort in the initial estimates in order to establish credible budgets and schedules and are forced to discard many of these estimates when requirements and other project characteristics are changing. Companies invest more effort to plan budget and schedule than they do in anyother planning activity. Thus, software companies put a lot of effort in an activity with a little chance of achieving its goals.

Successful project management is generally classified as accomplishing the effort on time, within budget, and at an acceptable level of quality(Kerzner, 1989). However, the process should result in continuous improvement (Oakland,1999;Kerzner, 1989) in order to reach excellence. Kerzner, 1989 argues that the excellence in project management requires first, a continuous stream of successfully managed projects and second, that decisions made on individual projects must take into account the best interest of both the project and the company as a whole. Moreover, a customer must see first, the project as having an appropriate fit with the mission, objectives, and goals of the enterprise(Cleland, 2004). Second, stakeholders are happy with the way the project was managed and the results that have been produced (Cleland, 2004).

Developers, managers, and customers usually have good reasons for making the decisions they do, and the problems have been made so often. Hence the problems can have been divided along the development-speed, dimensions of people, process, product, and technology. Failure to deal with problem personnel also threatens development speed. This is a common problem and has been well-understood at least since Weinberg, 1998 published Psychology of Computer Programming in 1971. Failure to take action to deal with a problem employee is the most common complaint that team members have about their leaders (Larson and LaFasto, 1989). It is better to make time for uninterrupted talk with each person in your group every week.

Whether you are a technical lead or a functional manager, one of your deliverables to your management is a periodic assessment of what and how your organization is doing. You also have a deliverable to your staff, of knowing enough about what they're doing and how they're doing it to give them formal and informal performance reviews. You can't meet those deliverables if you don't know what everyone is doing.

Process-related problems slow down projects because they squander people's talents and efforts. If you're working on a six-month project, and it takes you three months to meet your two-month milestone, what do you do? Many projects simply plan to catch up later, but they never do. We learn more about the product as we build it, including more about what it will take to build it.

Developers are fascinated by new technology and are sometimes anxious to try out new features of their language or environment or to create their own implementation of a slick feature they saw in another product--whether or not it's required in their product. The effort required to design, implement, test, document, and support features that are not required lengthens the schedule.If you have product goals that push the state of the art algorithms, speed, memory usage, and so on you should expect great uncertaintyin your scheduling. If you're pushing the state of the art and you have any other weaknesses in your project--personnel shortages, personnel weaknesses, vague requirements, unstable interfaces withoutside contractors, you can throw predictable scheduling out the window.Most software is so bad, in fact, that if it were a bridge, no one in his or her right mind would walk across it. If it were a house, we would be afraid to enter. The only reason software engineers get away with this scam is the general public cannot see inside of software systems. If software design were as visible as a bridge or house, we would be hiding our heads in shame.

We would not accept a new house with sloping floors, holes in the ceilings, nails sticking out of the walls, and an outrageous price even if it minimally met basic needs. Rather than crooked floors, the software manifestations of poor design are redundancy, unnecessary performance bottlenecks, intertwined bugs that cannot be fixed, impenetrable code, and other ills. Unfortunately, we often accept software in just such a state. Regularly, companies release code like this to external and internal customers. And customers accept delivery. Businesses pay billions of dollars per year for this kind of software during mergers and acquisitions.Yet again, the type of project and software company plays a vital role when forming a project plan, handling estimations, risks, resource allocating etc.

The certain steps can be taken at the time the project is launched to improve the prospects. Every project is unique in nature, however the following guidelines can be used for managing the project planning as well as minimizing the faults well:

- Hire a competent project manager whose administrative, technical, and political skills commensurate with the task. Also appoint the team members with proper mix of technical and administrative skills. Avoid, whenever possible, part-time assignments so that individuals who are working on the project can devote their full attention to it.
- Establish the appropriate communications links among all the elements of the organization and assign each task to an individual or to a specific organization so that responsibility for its completion is unambiguous. Distribute the plan, schedule and budget to all concerned and confirm their ownership of the tasks assign to them.
- Review the project schedule and budget regularly. At each review meeting, ask for reaffirmation of plans and schedules for the forthcoming period.

Of course, no project planning philosophy can guarantee the success of any project, no matter how noble its objectives are, or how diligently it is applied. It can, however, materially improve the prospects for success, provided all project participants accept the philosophy and it is administered in a consistent and disciplined manner.

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LIVELIHOOD ANALYSIS OF HANDLOOM COMMUNITY: A CASE STUDY OF BALARAMAPURAM HANDLOOM WEAVERS OF KERALA

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ABSTRACT

The present study is on livelihood situation of handloom community at Balaramapuram handloom village of Trivandrum district in Kerala. The Balaramapuram handloom is one of the oldest handloom centres of Kerala with 350 years of experience in weaving. The largest concentration of handlooms in Kerala state is in this area only. The livelihood of the majority directly depended on handloom weaving and its allied activities. The livelihood condition of handloom weavers has been worsening year by year with the emergence of the giant cotton mills and it began to deteriorate. The poor folks engaged in handloom weaving could not compete with the productive capacity and technological eminence of these mills and it became very threat to the livelihood of handloom community. Even though government has introduced many welfare measures for the handloom weavers, most of them are not reaching to the poor weavers in the expected manner. Many of them are not even aware of these facts. Most of the weavers are getting only very meager income from weaving and it will not be enough for their living. Hence they are forced to engage their children also in the work. Often this affects their education also. The low incomes received from this sector often force them to withdraw from weaving/weaving related activity. The new generation people from the community are also not encouraged or attracted to the field due to low earning and profit. In this context, this is a humble attempt to analyze the current livelihood of handloom community of Balaramapuram. The study is very relevant in order to analyze the livelihood of the handloom community of Balaramapuram as it is one of the old and traditional handloom industries in the state. The study focuses on the livelihood asses, livelihood outcome and vulnerability contexts of the handloom weavers. Moreover, it analyses the impact of institutional mechanisms working for handloom weavers in the particular region.

KEYWORDS

balaramapuram, handlooms, livelihood.

INTRODUCTION

Khadi is to me the symbol of unity of Indian humanity, of its economic freedom and, therefore, ultimately the livery of India”

Mahatma Gandhi

The Handloom Textiles constitute a timeless part of the rich cultural Heritage of India. The element of art and craft present in Indian handlooms makes it a potential sector for the upper segments of market domestic as well as global. Handloom sector plays very important role in the country’s economy also. It is one of the largest economic activities providing direct employment to over 65 lacks persons, engaged in weaving and allied activities. This sector contributes nearly 19% of the total cloth produced in the country and also adds substantially to export earnings.

Handloom industry in Kerala today provides employment directly to 3lacks people and indirectly to another one lack. The industry is more concentrated in the Northern and Southern districts of the State namely Thiruvananthapuram district in the south and Kannur in north. The organization and nature of production in these areas differ considerably. Though Thiruvananthapuram district has the largest number of co- operatives, 366 out of the 755 co-operative societies, weaver activists point out that more than 250 of cooperatives are not are working well. The majorities of the weavers are independent or working for the master weavers as wage earners.

Kerala State Handloom Weavers Cooperative Society (HANTEX), the apex organization of the cooperatives and Kerala State Handloom Development Corporation Ltd (HANVEEV) providing services (especially marketing) to individual weavers. These are the principal development agencies assisting the Department of Handlooms and Textiles.

Balarampuram is a village in the Thiruvananthapuram district bordering Kanyakumari district of Tamil Nadu and it is one of the oldest handloom centers in the State. The largest concentrations of the handlooms in the district are in this area only. It is considered as the second market hub of the district. The first being Chalai market in Thiruvananthapuram city. Balaramapuram is famous as the centre for the production of traditional varieties of handloom textiles meant for the contemporary cloth wearing style of Kerala. Balaramapuram Sarees and fine cotton fabrics are manufactured in seven blocks of the districts. The handloom industry in this area today provide jobs opportunity to thousands of families belonging to different castes and communities like Ezhava, Nadar, Nair, Mukkuva, and others, mostly belonging to the weaker sections of the society.

The present study focuses on the livelihood analysis of the handloom community at Balramapruam. The analysis covers the current livelihood asset, livelihood outcomes, vulnerability context of the livelihood and the institutional processing for the livelihood of handloom community in Balaramapuram Handloom community. The analysis of the livelihood asset contains physical, human, natural and financial assets of the handloom community. The study was conducted among the 50 selected handloom weavers from Balaramapuram grama panchaayath. The researcher directly interviewed handloom weavers and collected data for the analysis. The study will be helpful in developing new strategies for the development of handloom industries in India.

OBJECTIVES OF THE STUDY

1. To study the socio economic profile of handloom community of Balaramapuram.
2. To analyse the livelihood assets of the handloom weavers.
3. To analyse the livelihood outcomes of the handloom weavers.
4. To analyse the vulnerability context on livelihood of handloom weavers.
5. To analyse influence of institutional processing in the livelihood of handloom community.

DISCUSSION

1. PROFILE OF THE HANDLOOM WEAVERS

The Balaramapuram handloom weavers have 360 years of experience in weaving and they are traditional weavers. The weaving skill is being transformed from their older generations to them. The main income source of 90% of residents directly depend upon handloom weaving and remain do works related to weaving such as bleaching, sizing, warping, etc. They are considered it as their traditional occupation.

A large number of weavers in Balaramapuram handloom community belong to the Hindu religion due to their weaving tradition and some historical reasons. More than half of the weavers are in the age of adulthood or above. It proves the low representation of younger generation in the industry and could not see any respondents in the age in between 20-30. It may be a sign of withdrawal of younger generation from the industry. Due to the low earnings and low profit the younger generations are not attracted or encouraged to this job. In gender wise analysis the participation of women are higher than men. This is because of the equal wage rate and working time between men and women and it attracts many women to this sector. The job nature is also favoring women weavers.

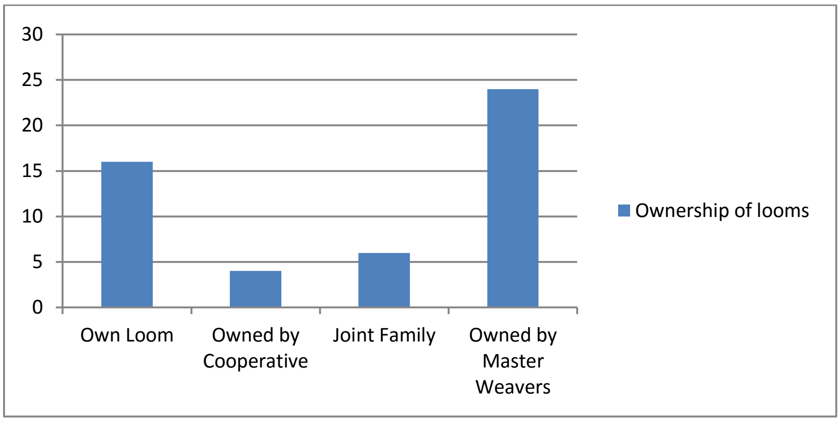
The educational level of the handloom weavers is very low comparing to other group of people. Majority of the workers studied up to only upper primary class. The economic condition of the weavers was not good in terms of occupying the land and other assets. It was observed that majority (62%) of weavers have only 5-10 cents of land. The region itself is densely populated and the availability of free land for purchase was also a reason for this situation. On the contrary it could see 72% of houses were self owned by weavers but majority of those were thatched roof only.

2. LIVELIHOOD ASSETS OF THE HANDLOOM WEAVERS

The study found that 40% of weavers are independent weavers and they have their own looms. The weaving activities are done very near to their houses also. There are different categories of weavers.

- 12% are master weavers- they are not weaving, but many people do weaving under the master weavers. They each have more than 6 looms and most of them processed by their ancestors. The master weavers have much experience in weaving and allied activities. They arrange looms and other raw materials for weaver under him.
- Wage Weavers- they do not have their own loom so that they are depending master weavers for weaving.

CHART 2.1: OWNERSHIP OF LOOMS



The availability of man days for weaving is one of the important factors which contribute to the livelihood assets of handloom community. It was observed that 58% of weavers get an average 25 man days of weaving in a month. But it was highly correlated to the physical ability and seasonal problems of the weavers. The younger people weave more days than older ones. The livelihood also associated with the productive capacity of weavers in weaving in a day. A large number of weavers can weave up to 5 meters per day. The younger people weaves much more than older ones due to their physical strength.

The better infrastructural facilities and storage capacity for products is one of main livelihood asset of the handloom weavers. This study found that 60% of weavers are not reliable in the existing infrastructure. Majority of weavers have only broken thatched sheds for weaving and those are old ones. In rainy season they are not able to weave with these sheds and have not enough facilities to store the cloth. The weak infrastructure challenges their livelihood situation and the low earnings from this industry are not helpful for the betterment of the infrastructure.

3. LIVELIHOOD OUTCOMES OF THE HANDLOOM WEAVERS

The handlooms are the main livelihood asset of the weavers. So, the livelihood outcome will be fully depended upon handlooms and its allied activities. It was observed that majority of looms were owned by the master weavers, those they owned by joint family system or by their ancestors. At the same time majority (48%) of weavers in this community are wage weavers and their livelihood is mostly depending on their wage in this industry. It was also found that 40 percent of weavers earn the wage range of 150- 200 and in a day. The wage is purely depending upon the capability and skills of weavers. They get 120 rupees for each 4 meter of cloth.

The availability of raw materials is a dependent factor in handloom industy. It was observed that the raw material is available according to the need of weavers. Majority of weavers are directly purchasing raw materials like yarn, color and gums etc. from local markets. It is very easily affordable to the weavers because of getting raw materials from local traders in installment base.

The sale of cloth after weaving also contributes to the livelihood outcomes of the weavers. Majority of weavers have an average monthly sale of cloth in the range of 10000-20000 rupees. In the case of wage weavers the cloth is sold by the master weavers. Though the master weavers are the main producers of cloth and more than half of the cloth is sold by them. But the livelihood situation of master weavers is also still continuing as old stage. The exploitation and inadequate prizes for the commodity by the traders are also one of the reasons for the low income in the industry. The study noticed that the local traders are making more profit by giving cheap prizes for their commodity. So, the inadequate marketing facilities are one of the problems to be exploited by local traders.

The house hold income is the main source of livelihood of weavers. The average monthly incomes of majority of weavers are in the range of 4000-6000 rupees in a month. Among the weavers 42 percent get 6000-10000 rupees per month. The master weavers get more income than the wage weavers. The master weavers can increase their income through establishing new loom and appointing skillful workers but the wage weaver remains in the same position. For wage weavers, their physical wellbeing to weave becomes reduced day by day and their productive capacity will become low. The wage weavers are not directly selling the commodity and their economic transformation will be in very slow level.

The study also found that a large number (86%) of weavers have not any other income sources than weaving such as any livestock's, agriculture land or rental houses, etc. The present income is not suitable to occupy other income sources and the work nature is not favoring to maintain the livestock and agricultural resources also.

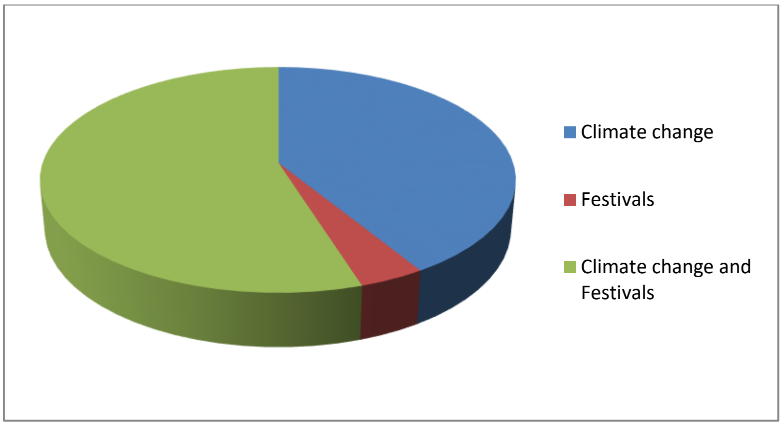
4. VULNERABILITY CONTEXT TO LIVELIHOOD

There are many vulnerable contexts in handloom weaving. It directly affects the livelihood of the handloom community. The indebtedness is one of the main threats for the livelihood of the handloom weavers. If the income is less than the expenditure, the households have to borrow money from others for their consumption expenditure. The study observed that 64 percent of weavers have house hold debt.

The diseases related to the handloom weaving are one of other main vulnerable contexts of the livelihood of handloom weavers. It was observed that among 50 weavers 42 percent of them have any type of diseases like chest pain, nose block, bone problems, etc. These diseases reduce the physical capacity for weaving and the average man days become decreases. It also directly affects the livelihood of the weavers. These diseases are related to their work nature.

The seasonal issues also contribute for the vulnerability for the livelihood of the handloom weavers. It is a worsening threat of the handloom community. All weavers in Balaramapuram handloom community affected the seasonal problems. Among the total weavers 48 percent of weavers affected the weather changing problem and remains affect both the weather changing and problems during festivals. In rainy seasons the weavers cannot weave due to the technological problems and during the festivals like 'Onam' also they have no proper weaving because of marketing problems of cloth. During these period weavers becomes unemployed. They should have to search other job for their livelihood during this period.

CHART 4.1: NATURE OF SEASONAL PROBLEMS



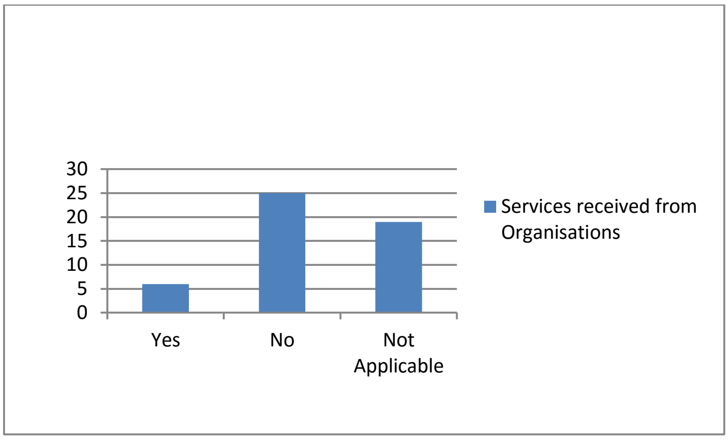
The frequency of the seasonal problems are has also analysed in this study. It was found that a large number (56%) of weavers affected seasonal problems during the periods up to 45-55 days. Majority of weavers are not going to other jobs instead of their traditional jobs during this long time and fell in debt.

The new trends in textile industry make a big change in the livelihood of the weavers. The main reasons observed for the decrease of production are the competitions from power looms, inadequate machineries, lack of demand for handloom cloth etc.

5. INSTITUTIONAL PROCESSING TO THE LIVELIHOOD OF HANDLOOM COMMUNITY

The institutions who are working for the welfare of weavers carry very big roles in the development of handloom community. The study observed that the 60 percent of weavers in Balaramapuram handloom community are the members of any type of organizations like cooperative societies, religious groups, etc. But only 12 percent of weavers benefitted at least any short services like financial, marketing and raw material etc. Though millions of money granted by the state and central government as financial assistance for the up gradation of handloom sector through cooperative societies it is not reaching to the weavers. Though the weavers have memberships in cooperative societies with 5-10 years majority of them have not get any short service till now. But at the same time the cooperative societies are flourished with lot of money and looms. Majority of cooperative societies are bogus and only in papers and a unethical relationship is exist among the government institutions and cooperatives in the case of financial matters.

CHART 5.1: SERVICES RECEIVED FROM ORGANIZATIONS



CONCLUSION

The present study on handloom community in Kerala explores the data related to livelihood assets, livelihood strategies, vulnerability contexts and different institutional processing for the livelihood development of the handloom weavers. The handloom sector give livelihood for hundreds people live in Balaramapuram Grama Panchayath. The livelihood of the weavers is completely associated with handloom weaving and allied activities. The main income source is the handlooms which they owned. The weavers in Balaramapuram are traditional weavers. Due to the low profit and low earning weavers are now withdrawing from this industry seeking with other jobs.

As a cottage industry it is most beneficial for the women labors and they get equal wage rate and working as men. In the context of huge amount of unemployment in India the handloom sector can be transformed to the employment generation sector for the lacks of people live in India.

The weavers face more vulnerable situations in their traditional occupation. The emergence of power loom, lack of demand of handloom products, lack of innovative design and seasonal problem etc made decrease in production and it directly affects the weavers. The diseases related to the weaving are one of main threat for this sector. The weavers face more problems like availability of adequate marketing system and availability of yarn and other raw material as their needs. The non availability of credits and loans causes weavers to fall in debt. The new technologies and design can promote this industry much more.

Though government brings so many program and schemes as the financial assistance for the weavers it is not properly reaching to the weavers. The study analyzed the working of cooperative societies for the livelihood of the handloom weavers. Most of the cooperative societies are not working purposefully among the weavers. The weavers don't get any benefit from them. The government doesn't conduct any proper inspection in the working of the cooperatives.

SUGGESTION AND RECOMMENDATION

- The wage rate of the wage weavers has to increase or modify.
- Appropriate Training interventions for weavers/master weavers in hard/soft skills.
- Give emphasis on modernization and provision of technological inputs for improving productivity, quality and finish.
- To improve the marketing of handlooms products, strengthening the infrastructure of marketing complexes, organizing the training of marketing personnel and intensive publicity.
- Most of the cooperative societies are only in papers. Though government gives financial assistance through them it is not reaching to the weavers. So, bring a systematic inspection body to evaluate the working of cooperative societies among handloom weavers.
- Bring a systematic credit system through banks or cooperative societies and save the weavers from the exploitation of the money lenders.
- The main livelihood of weavers is depended only in weaving and its allied activities. They affect livelihood problems in some particular seasons. So, the government should have to bring special financial packages for weavers in those seasons or give alternative employment opportunities.

- Most of the weavers are women. The adequate gender based facilities for women should be bringing in work sheds.
- Ensure and examine the availability of government programs and schemes of the weavers.
- Bring the infrastructure up gradation for comfortable weaving and give support for the infrastructural development by giving subsidies.
- The new generation people are not motivated or attracted to this industry. As the handloom sector is the one of employment generation sector should have to give the motivation to younger generation to engage in handloom Industry.
- Give financial assistance to the diseased weavers and ensure the availability of pensions among them.
- Bring new designs and innovation in handloom weaving.

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