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1 May 2014
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CONTENTS

Research Papers

STRATEGIC ALIGNMENT AND QUALITY SERVICE OF COMMERCIAL BANKS IN KAKAMEGA CENTRAL SUB-COUNTY, KENYA

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ABSTRACT

Environment in which organizations operate today are divergent and fluid for the organisation to survive. Fierce cut throat competition has compelled organization to devise strategic approaches to counter this competition. Achieving competitive advantage and improving organizational quality service have become the key goal that business firms are struggling to attain. This study therefore sought to investigate the effects of strategic alignment on quality service of Commercial Banks in Kakamega Central Sub-County, Kenya. The study specific objective of the study was to assess the customer relationship management systems on quality service. The study adopted descriptive survey design. The study population comprised of all the licensed commercial banks in Kakamega Central Sub-County, from which a representative sample of 10 commercial banks was drawn. Three (3) senior officers (branch manager, operations manager and customer relations manager) were further drawn from each of the sampled 10 commercial banks to make a total of 30 officers. The main study instrument was a questionnaire which comprised of Likert-type scale questions on the main variables of the study. The data was analyzed using both descriptive and inferential statistics. Hypothesis testing was done by use of regression and correlation analysis. Validity was checked during piloting to ensure all the items in the main study were functioning. Moreover, to ensure validity of instruments, content validity was established pilot testing process was used to test reliability comparing with Cronbach's Coefficient of which yielded an alpha of 0.933. The findings revealed that customer relationship management system had statistically significant influence on quality service of commercial banks in Kakamega Central Sub-County Kenya and tests for significance also showed that the influence was statistically significant. Findings revealed that 81.3 percent ($R^2=0.813$) of the variance in quality service may be explained by customer relationship management system accounted for 81.3 percent (($r^2 = 0. 813$). The study recommended that: commercial banks should invest in training employees especially the front officers on customer relationship management since it positively affects quality service. The managers of commercial banks will use the study findings as a basis of formulation of policies on strategy changes that can enhance their quality service. The academicians and researchers will find the study useful in that it contributes to academic literature and theory by providing empirical evidence for use by educators, scholars and researchers in the Survey of strategic management.

Keywords: Strategic Alignment, Quality Service, Commercial Banks, Customer Relationship Management System

INTRODUCTION

Strategic alignment in manufacturing contexts was first discussed by Skinner (1969), followed by theorists such as Wheelwright and Hayes (1985), Joshi *et al.* (2003), Decoene and Bruggeman (2006), Brown *et al.* (2007). In an information technology (IT) context the subject has been discussed by Tallon (2011) and Chao and Chandra (2012). Strategy alignment between organization objectives and business unit and support functions become crucial for organization successful. Organization is able to execute its strategy well to compete with its rivals if organizational strategies are linked to business units and support functions within organization (Skinner, 1969). In contrast, lack of alignment creates opposite results. For this reason Skinner (1969) gave a warning of the lack of alignment and he noted that corporate becomes weak to implement its strategy.

Initial argument the importance of strategy alignment was case in manufacturing, in which at the time corporate strategy and manufacturing policy did not have a synergy to execute the corporate strategy. This finding was from his investigation from the company Skinner (1969) where top-management and manufacturing managers tend to ignore involving and executing together in any decisions to support corporate goals (Skinner, 1969). Based on this investigation, he Skinner (1969) advocated that if company wants to gain a competitive advantage top-down linkage should be conducted by company. Skinner (1969) thesis was further developed by Wheelwright and Hayes (1985) who offered steps to make manufacturing company more competitive. They argued that the manufacturing strategy has an important part in supporting the company's position. They suggested that top-down alignment structures could help 'internally supportive' team unit managers should understand business strategy priorities that could be used as the basis for developing unit targets (Wheelwright and Hayes, 1985). In this step, each functional unit involves and helps the other to support and strengthen the company's ability to compete with competitors.

In addition, top-down alignment can enhance the company's capability to improve business performance. For example, Sun and Hong (2002) study, conducted in more than twenty countries, showed that when alignment between manufacturing strategy and business strategy occurs, business performance improvement and business objectives can be raised. This finding is similar to that of Smith and Reece (1999), who noted that alignment has significant and direct effects on a company's performance. More recently, Chenhall (2005) found that strategic alignment of manufacturing make a considerable contribution in achieving company's strategic outcomes.

No example of strategic alignment in the service sector, however, appears to exit. The authors believe that strategic alignment in the service sector could not be generalized to its counterpart manufacturing sector since the service sector has embedded characteristics (i.e intangibility, heterogeneity, inseparability from product and consumption and perishability) that distinguish it from the manufacturing sector (Lovelock and Gummesson, 2004; Auzair and LangSurvey-Smith, 2005). Hence, following Auzair and LangSurvey-Smith (2005) suggestion of applying the role of the management control system (MCS) of manufacturing in the service sector, I argue that strategic alignment of manufacturing 'requires a re-orientation to be effectively implemented in service organizations' (p. 400).

QUALITY SERVICE

Nowadays, with an ever increasing competition, Quality Service has become a popular area of academic investigation, and has been recognized as a key factor in keeping competitive advantage and sustaining satisfying relationships with customers (Zeithmal et al., 2000; Wangand Wang, 2007). Quality Service has been defined in services marketing literature as an overall evaluation of service by the customers. Perceived Quality Service is believed to be resulting from comparison between customers' previous expectations about the service and their perceptions after actual service experience (Ganguli and Roy, 2011).

Grönroos, (1982) described the total Quality Service as customer's perception of difference between the expected and the perceived Quality Service. He also defined the concept of perceived Quality Service as the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives or has received (Wang and Wang, 2007).

Quality Service is considered as a critical success factor for modern service businesses. It has been discussed conceptually as a potential alternative to traditional skills and resources, as well as empirically tested as a potential driver of improving business performance (Newman, 2001; Kang and James, 2004 cited in Akroush, 2009).

Quality Service is commonly noted as a critical prerequisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Previous studies suggest that Quality Service is an important indicator of customer satisfaction (Wang and Wang, 2007). Focus and adherence to Quality Service help organizations for their successful operations and gaining competitive advantage over others (Wang and Wang, 2007).

Empirical studies found that there is a positive and significant relationship between Quality Service and business performance (e.g., Kangand James, 2004; Chumpitaz and Paparoidamis, 2004; Lai et al, 2005; Akroush, 2008a, 2008bcited in Akroush, 2009). Studies have concluded that Quality Service exerts a significant positive influence on service business performance assessed based on financial and non-financial measures (Zeithaml, 2000; Duncan and Elliot, 2002; Akroush, 2008a, 2008b cited in Akroush

CUSTOMER RELATIONSHIP MANAGEMENT SYSTEMS AND QUALITY SERVICE

Recent studies on the CRM selectively focused on some service sectors such as banking (Akroush *et al.*, 2011; Becker, Greve, and Albers, 2009; Eid, 2007; Hussain *et al.*, 2009; Krasnikov *et al.*, 2009; Sin, Tse and Yim 2005), telecommunication (Almotairi, 2009; Beldi *et al.*, 2010), healthcare (Bunthuwun *et al.*, 2011; Hung *et al.*, 2010), and contact center (Abdullatif *et al.*, 2010). Consequently, research on how CRM systems affect quality service in Kenya commercial banks has not been underscored.

Current researches have revealed that service firms require a better understanding of customer orientation and its great importance to such firms and their performance (Kim *et al.*, 2006; McNaughton *et al.*, 2002; Sin *et al.*, 2005). Other studies have been carried out to establish the relationship between CRM, customer orientation and marketing planning capabilities (Morgan, Vorhies, and Mason, 2009). It should be noted that these studies were carried out in the hotel industry and not in the commercial banks.

Most studies have shown that CRM cannot be successful even if the organizations enjoy the most advanced technology and adapt a customer - oriented approach, unless the project is completely integrated by them (Sin *et*

al., 2005; Yim*et al*., 2005). This was further emphasised by Ku, (2010) who stressed that CRM success does not only require technological quality or systems, but it also requires an effective service concept as well as suitable operation procedures. Thus, the success of CRM implementation relies on the active involvement of the employees in the organization itself (Boulding, Staelin, Ehret, and Johnston, 2005; Payne, 2006; Tamilarasan, 2011).

Several studies have been conducted between the impact of information technology on organization performance and they have reported similar findings about the positive role of information technology in CRM strategy. In other words, these studies revealed that many customer-centric strategies cannot achieve their goals, without the help of information technology (Abdullateef *et al*., 2010; Eid, 2007; Ozgener and Iraz, 2006; Sigala, 2005; Sin *et al*., 2005; Yeh *et al*., 2010). Kasim and Minai, (2009), in their studies found out that CRM technology dimension is firmly related to performance, because organizations need to use information technology for improving their performance .In this regard, new technologies are considered as the core drivers for change (Minghetti, 2003).

Kotler, (2006) observed that technological approaches involving the use of databases, data mining and one-to-one marketing can assist organizations to increase customer value and their own profitability. This type of technology can be used to keep a record of customer names and contact details in addition to their history of buying products or using services (Jim, 2006).This information can be used to target customers in a personalized way and offer them services to meet their specific needs. This personalized communication provides value for the customer and increases customers' loyalty to the provider (Gartner, 2009).

Mithas *et al*. (2005) in their study on the assessing the CRM on customer knowledge and the customer's satisfaction by collecting data from the senior managers of Information Technology in more than 300 institutions working in the USA, results showed that the applications of CRM had a positive effect as they contribute to improve the knowledge of the customer and enhance the customer's satisfaction. Brink *et al*. (2006) studied on treating the effect of CRM on the customer loyalty analysed the data from 240 students shared in the library of one of the universities of Western Europe. The study concluded that customer loyalty gets higher in the case of strategic orientation of CRM than in that of tactical approach. It was also found that the dimensions of CRM (the degree of harmonization, the invested resources and the support of senior management) have no effect on the customer's loyalty, except for the time span of the CRM program, which had a significant effect on the customer's loyalty.

Research works by Coltman, (2007)on the identifying the extent to which CRM contributes to improving the performance utilised sampled data obtained from banks working in Australia upon different criteria (such as the application of the technology of CRM and the number of customers). The response rate was 32%. The abilities to apply CRM were measured by three dimensions: the human skills and experiences, the structure of Information technology and the skeleton of the organization. Performance was measured by three dimensions: the earning rate of the investment (excluding taxes), the revenue of new products and the growth of sales. The results indicated that the distinguished abilities to apply CRM lead to the improvement of performance.

According to the Ndubisi and Wah, (2005), study on the relationship between marketing and customer's satisfaction by looking at the bank customers of Kota Kinablu city in Malaysia representing the society of the study. The number of banks in the city was 20 but only 15 banks agreed to have their customers interviewed by the researchers inside the banks. Likewise, only 400 customers of the banks' customers agreed to fill the investigation lists. Only 220 usable lists were authenticated, and the response average was 55%.The study concluded that all dimensions were related to the customer's satisfaction and that the dimension of the strongest relationship was represented in the improvement in the relationship quality with the customer in general terms; the correlation coefficient was 0.88 with less than 0,05 level of significance.

Malmi *et al*., (2004) while studying on the extent of the relationship between the organization's approach toward CRM and both the customer's profitability and the performance of the work unit of the organization, their investigation lists were designed for such goal and were delivered by mail to 2486 managers of general administrations, marketing administration and financing administration in 677 industrial and service organizations of no less than 100 employees. Researcher's received564 lists from 354 organizations, with almost 22% of response rate. The study concluded that the organizations' approach towards CRM which includes the strategic dimension, the organizational dimension and the systems' dimension directly affects the customer's profitability.

Being close to your customers has undoubtedly been one of the key successes of relationship management. Konusuke Matsushita, the legendary founder of the Matsushita electronics group, counselled his sales team to

take the customer's skin temperature every day (Bhote, 1996). The bonds of trust that build up between a company and its core customers are based mainly on the close and personal relationship between the relationship banker and customers. This close relationship does not refer to any kind of friendship or favouritism, but rather to a partnership or relationship that brings mutual benefit. The success of the relationship also depends on the partners understanding each other (Cheese, 1994). Part of this process is building up data on customers as well as storing the data, which again should be easily available for usage at any point in time. Due to the volume of customer information it should be stored on a computer database or customer relationship management system. The data usually includes data on customers' past purchases as well as additional segmenting information.

Customer relationship management is an approach where the company improves the marketing effort with information from a detailed customer database (Perreault & McCarthy, 2002). The underlying purpose of CRM is to unlock the value of the relationship assets in a company to enable acceleration in revenue and profit growth (Ellis, 2004; Kennedy, 2004). Utilizing CRM in meeting the customer's immediate and long-term needs enables companies to build customer loyalty and long-term relationships to the benefit of both parties. The implementation of CRM systems in the banking sector provides the means to conduct interactive, relevant and personalized communications with customers (Grigoroudis *et al*, 2002). An integrated CRM system will also deliver a seamless and consistent customer experience (Cap Gemini Ernst &Young, 2005).

CRM systems can be used by the relationship bankers in providing them with a detailed profile of each customer or a single view of the customer (Stoneman, 1999). These powerful customer–information systems have become a critical strategic focus for banks around the world. Relationship banking builds on the current trend of CRM or data driven optimization of customer relationships (Cram, 2001). The CRM system does not create customer loyalty by itself, but assists in identifying critical information about customers and who the most valuable customers are. It supports the process of relationship banking in moving closer to the customer (Jarrar & Neely, 2002, Barnes & Howlett, 1998). CRM techniques are also used to support communication and to promote consistent messages throughout a business to both customers and staff (Lovewell, 2005). The CRM system is also a tool to firstly store and secondly share customer information held by relationship bankers (Murray, 2004).

It is however very important that banks use the confidential information sensitively and with utmost respect (Fournier *et al*, 1998). Customers experience a level of discomfort when banks continuously request similar information from them, but from different business units. The collection of data must be coordinated from a single point of contact, and distributed to other units or product divisions as required. A further irritation for customers is if the information is not utilized effectively

In the words of Kotler & Armstrong, (2010), the first step every firm should take towards its corporate goal attainment is to ask the following questions: "Who is the customer? Where is he? What does he buy? How can he be reached? How can his loyalty be assured and sustained?" Obviously, the answers to the above questions can only be found when a firm adopts the strategy of staying close to its customers through robust customer relationship management.

Brian, (2011) emphasized that; the marketing concept teaches that to succeed in any business, the customer must be the centre piece of organizational activities. Thus, the sayings that "customer is king" and that "customer is always right" are borne out of this philosophy. Emphasizing the importance of customers, Alis, Karakurt and Melli, (2000) stated that the focus of all the activities involved in the marketing function is the customer.

Adirika and Samuel, (2010) defined customer service as the reflection of the total approach of a staff to a customer. It is the attitude of helpfulness, friendliness and professionalism that satisfies customer and leads to repeat business. For Foss, (2002), customer service is a series of activities designed to enhance the level of customer satisfaction – that is the feeling that a product or service has met the customer expectation. Kotler, (1999) describes customer relationship management as a skill which enables companies to provide excellent real-time customer service by developing a relationship with each value involved customer through the effective use of individual account information.

In order to have more efficiently managed customer relationship CRM focuses on effectively turning information into intelligent business knowledge. This information can come from anywhere inside or outside the firm and this requires successful integration of multiple database and technologies such as the internet, call centre, sales force automation and data warehouse. (John and Fredrick, 2002) There is no universal explanation of what CRM is, since the area is fairly new and still is developing. It is therefore important to remember that

several attempts of defining CRM exist and that many companies adapt the definition to their own business and their unique needs.

Panda, (2003), states that for a successful CRM implementation in the financial services sector, it has to incorporate four main areas of business which include strategy, people, technology and process. Panda further explains that he enablers (people and technology) are moved by the organizations strategic processes through their systematic interaction which eventually results in a successful CRM implementation.

Sin, Tse and Yim, (2004) reported that that successful CRM depends on how four key components: strategy; people; technology; and processes are dealt with. Day, (2003) observed that when all the four key areas are well addressed, a higher customer-relationship competence may emerge and that superior customer relationship capability was achieved when the four work in harmony or as a unit. In other words success in one of the key factors may not necessarily enhance effective and efficient CRM. Yim, Anderson and Swaminathan, (2004) in his own words observed that CRM implementations usually involve four specific ongoing strategic activities: focusing on key customers, organizing around, managing knowledge, and incorporating CRM based technology. Sin, Tse and Yim, (2004) in the same vein, hypothesized that CRM is a multidimensional construct consisting of four broad behavioral components: key customer focus, CRM organization, knowledge management, and technology-based CRM. They opined that for a business to maximize its long-term performance in such aspects as customer satisfaction, trust, return on sales, and return on investment, it must build, maintain, and enhance long-term and mutually beneficial relationships with its target buyers

Ryals and Knox, (2001) indicated that a customer-focused structure, culture, policy, and reward system should permeate any organization that strives to implement CRM successfully. They noted that the firm-wide CRM spotlight ought to replicate in all interactions with key customers. According to Yim, Anderson and Swaminathan, (2004) the key customers are usually identified through customer lifetime value analysis. They asserted that the fundamental goal of key customer focus is to achieve a deep customer relationship that makes an organization a necessary partner to its most profitable customers. Company-wide understanding and support for key customer focus motivate sales force to cultivate long-term customer relationships by offering more personalized products and services.

Dowling, (2002) observed that customers-needs-driven CRM programs are common with firms that adopt business-to-business marketing strategies because customers-needs-driven CRM programs to boost inter-firm relationships. According to the CRM behavioural component model of Sin, Tse and Yim, (2004), Key customer focus is a composition of dialog with customers on customizing their needs, customizing products, customer needs assessment, and implementation of customer needs information. Dowling, (2002), observed that customer-needs-driven CRM strategy should be an important constituent of the overall business strategy of firms. Therefore, firms, as part of their CRM practices, ought to develop CRM strategies that are capable of delivering both economic and non-economic benefits to key customers

CONCEPTUAL FRAMEWORK

A conceptual framework is a theoretical structure of assumptions, principles, and rules that holds together the ideas comprising a broad concept (Zikmund, 2003). The independent variable of this study was: Customer relationship management systems while dependent variable was quality service.

Customer relationship management systems
Captures the needs of the customers
Respond to customer complaints
Client information

→

Service Quality
1. Time and timelines
2. Completeness
3. Consistency
4. Responsiveness
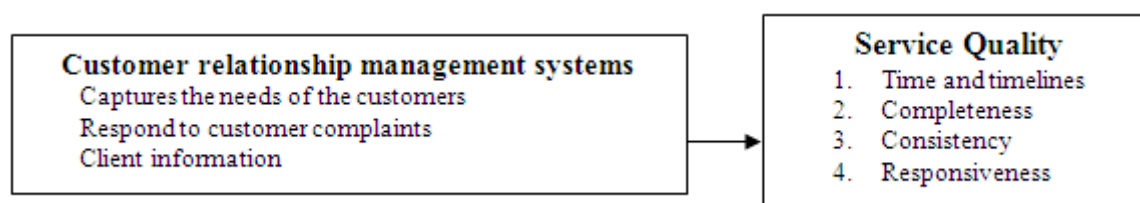
METHODOLOGIES

The study was conducted in Kakamega Central Sub-County in Kenya in 10 registered banks branches (CBK Annual Supervisory Report, 2015). For the purposes of this study, the researcher employed descriptive survey design. The target population included those staff in management for the ten branches of commercial banks in Kakamega Central Sub-County. In this study, 10 branch managers, 10 operational managers and 10 Customer Relations Managers at the branches were used. The data collection instrument in this study was a questionnaire. The research instrument was conveyed to the respondents through the drop and pick technique. To establish the validity of the research instrument the researcher sought for the opinions of experts in the Survey of study especially the researcher's supervisor. This facilitated the necessary revision and modification of the research

instrument thereby enhancing validity. Reliability was determine using Cronbach alpha and they were found reliable with alpha value of above 0.933 (Customer relationship management systems (α=0.933), while Quality Service had the α level at (α=0.712)).The quantitative data was edited and coded into Statistical Package for Social Sciences (SPSS) for analysis. SPSS generated descriptive statistics such as frequencies, mean and standard deviation. The study adopted the regression model to establish the effect of strategic alignment on quality service of Commercial Banks in Kakamega Central Sub-County.

FINDINGS AND DISCUSSIONS
Descriptive Statistics of Customer Relationship Management System
To determine whether the Customer Relationship Management System had any effect on quality service, respondents were required to state their level of agreement with four statements relating to Customer Relationship Management System and Quality Service in Commercial Banks in Kakamega Central Sub-County where; 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The Relevant results are as shown in Table 4.7 below.

Table 1: Descriptive statistics of Customer relationship management systems

ITEMS	SD (%)	D (%)	N (%)	A (%)	SA (%)
Captures the needs of the customers	3 (10.0)	14 (46.7)	0 (0.0)	11 (36.7)	2 (6.7)
Respond to customer complaints	4 (13.3)	11 (36.7)	0 (0.0)	10 (33.3)	5 (16.7)
Responds to Client information	2 (6.7)	14 (46.7)	0 (0.0)	9 (30.0)	5 (16.7)
The nature of our organizational structure facilitates flow of communication	7 (23.3)	12 (40.0)	0 (0.0)	11 (36.7)	0 (0.0)

From Table 1, 3(10.0%) of the respondents strongly disagreed, 14(46.7%) of the respondents disagreed and 11(36.7%) agreed that customer relationship management system captures the needs of the customer (Mean=2.8333, SD=1.23401). Further, 11(36.7%) and 10(33.3%) of the respondents disagreed and agree respectively that their commercial banks respond to customer complaints (Mean=3.0333, SD=1.40156). On response to Client information, 14(46.7%) of the respondents disagreed while 9(30.0%) agreed that the commercial banks responds to client information with (Mean=3.0333, SD=1.32570).Similarly, 12(40.0%) of the respondents disagreed and 11 (36.7%) agreed that organizational structure facilitates flow of communication with (Mean=2.5000, SD=1.22474)

Effect of customer relationship management systems on the quality service of Commercial Banks in Kakamega Central Sub-County
The study used the correlation r (beta, β) to test the research hypothesis. The test criteria was set such that there is either a positive or negative effect if the value of beta, $\beta_2 \neq 0$. The mean of customer relationship management systems was correlated with mean of quality service of Commercial Banks and the results were as shown in Table 2 below.

Table 2: Regression Analysis Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902[a]	.813	.806	1.72025
a. Predictors: (Constant), Customer Relationship Management System				

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	360.107	1	360.107	121.688	.000[b]
Residual	82.860	28	2.959		
Total	442.967	29			
a. Dependent Variable: Quality Service					
b. Predictors: (Constant), Customer Relationship Management System					

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.018	1.450		.702	.488

Customer Relationship Management System	.680	.062	.902	11.031	.000
a. Dependent Variable: Quality Service					

From **Table 2** above, the correlation of the mean of customer relationship management systems and mean of quality service had a beta term β = 0. 902, P=0.01. This implies that the value of beta is positive and significant. Basing on this value, it therefore implies that there exists a statistically significant positive effect of customer relationship management systems on the quality service of Commercial Banks in Kakamega Central Sub-County. From the results, 90.2% of quality service of Commercial Banks in Kakamega Central Sub-County can be explained by customer relationship management systems (r^2 = 0.902) and the relationship followed a simple regression model of the nature P= $\alpha + \beta_2$ CRMS +e where P is the quality service of Commercial Banks, α is the constant intercept of which in our case is 1.018 and beta β_2= 0.902, which at times is referred to as the slope coefficient, CRMS is the customer relationship management systems and ε is the standard error term which in this case is 1.72025.

The study is in line with past studies which show that Customer relationship management systems as an approach can be used by the company to improve the marketing effort with information from a detailed customer database (Perreault& McCarthy, 2002).

Anber, Abraheem, Shlash Mohammad, Shireen, Yaseen, Mohammad, Alhamadani, (2011), examined the level of quality service as perceived by customers of commercial bank working in Jordan and its effect customer satisfaction, The results of this study indicated that quality service is an important antecedent of customer satisfaction and suggested that managers and decision makers in Jordanian commercial banks should seek and improve the elements of quality service that make the most significant contributions on customer satisfaction.

Fram and McCarthy, (2011) on their research on how to retain customer satisfaction in turbulent times, state that success in maintaining satisfaction levels involves undertaking customer-focused corrective actions which include; more frequent customer meetings, improved electronic or print mail communications and the provision of more friendly financial information. The authors also state that bank managers should continue to focus on the basics of customer focus, use of existing and emergent technology to provide customer friendly support, and constantly review and update their financial value proposition offered to customers in order to maintain customer satisfaction during turbulent times.

Somasundaram and Krishnamoorthy, (2013) conducted a study on impact of quality service on customer relationship management in banking sector in Erode. Study results showed a significant impact of Tangibility, Empathy and Responsiveness on customer relationship management. Statistical significant relationship was found between customer relationship management and perceived quality service in a study conducted by (Rootman, 2006) in banking sector. Similarly Arora (2013) found a positive role of quality service in customer relationship management in telecom sector in India. Quality services influence the intention of the customer to stay with the existing service provider (Chaddha and Kapoor, 2009). Long term relationship with the customers can be developed by a range of quality of services as network quality, voice calls, and fortnight calls etc.) Alfred, (2012); Momani and Noor, (2010) found a significant relationship between e-quality service and customer relationship management.

CONCLUSION AND RECOMMENDATION
The study concluded that there exists a statistically significant positive effect of customer relationship management systems on the quality service of Commercial Banks in Kakamega Central Sub-County. The study recommends that commercial banks should invest in training employees especially the front officers on customer relationship management since it positively affects quality service

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CROSS CULTURAL ASSESSMENT OF INNOVATIVE CLIMATE: A COMPARATIVE STUDY

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ABSTRACT

Innovation or introducing of new and more effective ways of doing things is critical to the success of new products. As the competition inherent in a global market place increases, products (and services) innovation is the solely driving force for maintaining company viability and better satisfying customer needs. Really new or discontinuous new products play an important role in building competitive advantage and can contribute significantly to a firm's growth and profitability (Ali, 1994; Cooper, 2002; Klienschmidt & Cooper, 1991; Robertson, 1987). However, while innovation plays a crucial role in the success (or continued success) of most companies, it does not come easily. To promote and support innovation within organisation, cooperate culture must be adopted that will accept and defend the vagaries of individuals and group creativity. Leaders must ensure that employees believe the expectation that innovation is part of their jobs they do this by providing a safe environment, where there is freedom to fail. A high tolerance for failure allows trial and error, experimentation and continuous learning (Ahmed et al., 1999). The main purpose of this study was to measure the degree innovative capabilities in both culturally different organisations situated in Indian and American respectively and to assess as well as compare the innovative capabilities of Indian and American Organisation. In the present study the sample size of 100 employees from both Indian and American organization were selected. The Diagnosis of your Organization for Innovative ability by Pradip N. Khandwalla was used and Mean and Students t-test were calculated with the percentage level of all the eleven dimensions. Findings of the present research indicate that above average degree of innovative capabilities was seen in both Indian as well as American organisation. Further, it was found that there was a significant level of difference between a perception of employees of Indian and American organisation with respect to different dimensions of factors influencing innovation.

INTRODUCTION

Innovation or introducing of new and more effective ways of doing things is critical to the success of new products. As the competition inherent in a global market place increases, products (and services) innovation is the solely driving force for maintaining company viability and better satisfying customer needs. Really new or discontinuous new products play an important role in building competitive advantage and can contribute significantly to a firm's growth and profitability (Ali, 1994; Cooper, 2002; Klienschmidt & Cooper, 1991; Robertson, 1987). However, while innovation plays a crucial role in the success (or continued success) of most companies, it does not come easily.

In the ever-changing competitive world, innovation is the only key which can sustain long-run growth of the country. More and more firms as well as organisations are realizing the importance of innovation to gain competitive advantages. Accordingly, they are engaging themselves in various innovative advantages. They are engaging themselves in various innovative activities, ranging from manufacturing processes, product improvement, and brand building initiatives to customer satisfaction. Today, business environment has become very dynamic with more demanding customers and intense market competition. To meet this, organisations and firms are creating new products, solutions and services that provide a radically better experience for the consumers. Zairi (1994), Juran (1989), Hill and Wilkinson (1995) and Wilkinson et al., (1998) see innovative companies as characterized by creative people developing new products and services under continuously changing environment.

Innovation is not only about technology, but rather is also about understanding and exploring all possible untapped user needs that require to be addressed in an efficient manner. It must occur at every stage of a product or solution development and release cycle. Thus, managing innovation is fast becoming priority in a global business environment.

Organisation or firms which innovate tend to survive and grow to a greater extent. The most successful individuals, managers and even team leaders in latest business world are the ones who are not only innovative in their own work, but who encourage and assist others to be innovative in every aspect of their work. Mc Adam, Stevenson & Armstrong (2000) are of the opinion that small and medium enterprises (SMEs) which had adopted a culture of continuous improvement will build a culture of innovation beyond the culture of continuous improvement to achieve increased competitiveness.

Some of the key innovation areas are: product development and improvement; manufacturing processes; creating entirely new set of products; etc. In area of supply chain management, innovation help making the supply chain more responsive, flexible and efficient. Supply chain innovation can be used to reduce costs, offer better assortment of customer centric products, decreasing time to market and driving growth.

Thus, the term 'innovation' is rightly referred to as changes to products, services, processes or business models. To continue their growth and to attain newer heights, organisation need to recognize the importance of 'innovation' for maintaining their competitive edge and fuelling further growth. Innovation may be linked to performance and growth through improvements in efficiency, productivity, quality, competitive positioning, market share, etc. According to Rogers (1995), an organisation would be open to adopting an innovative idea if they anticipate that the adoption of an innovative idea would give them a relative competitive advantage. Studies indicate that besides relative advantage, perceived complexity and compatibility of the new technology also influences its adoption decision.

To promote and support innovation within organisation, a cooperate culture must be adopted that will accept and defend the vagaries of individuals and group creativity. Leaders must ensure that employees believe the expectation that innovation is part of their jobs they do this by providing a safe environment, where there is freedom to fail. A high tolerance for failure allows trial and error, experimentation and continuous learning (Ahmed et al., 1999)

People, culture, and technology serve as the institutional, market and socio-economic 'glue' that binds, catalyzes and accelerates interactions and manifestations between creativity and innovation, along with public-private partnership, international R&D consortia, technical/business/legal standards such as intellectual property rights as well as human nature.

The internal environment of the organisation has a key role to play in determining the influence on its innovative capabilities. Jassawalla and Sashittal (2002) define an innovative-supportive culture as a firm's "social and cognitive environment, the shared view of reality, and the collective belief and value systems reflected in a consistent pattern of behaviours among participants". Khazanchi et al (2007) support and elaborate a paradoxical view of innovation –supportive culture and suggest possible underlying sources of paradox.

Organizational culture has been conceptualized as a mediator of the relationship between transformational leaders and organisational innovation (Amabile et al, 1996; Deshpande et al, 1993; Jassawalla & Sashittal, 2002; Prather & Turrel, 2002). A study by Rahab et al (2011) showed that the management support is a positive influence on knowledge sharing activities and innovation capabilities of an organization. Jantunen (2005) showed knowledge sharing cultures help a company or organization to improve its innovative capabilities.

METHOD
EXPLORATORY DESIGN
Exploratory research intends to explore the research questions and does not intend to offer final and conclusive solution to the existing problem. The emphasis is on picking up bits of knowledge and recognition for later investigation or attempted when issues are in a preparatory phase of investigation. In order to gain familiarity with basic details, settings and concerns and also to determine about whether a study is feasible in the future. Furthermore this research is not generalizing to the population as the sample size is small.

TOOL
The apparatus utilized as a part of this study was **"Diagnosis of your Organization for Innovative ability"** by Pradip N. Khandwalla in view of going from Strongly Agree (SA) to Strongly Disagree (SD).

The instrument comprises of two parts:

Part I: Part I: Demographic data which incorporate age, sexual orientation, conjugal status, assignment, working knowledge and pay structure.

Part II: A survey containing 36 explanations gathered under eleven dimensions.

1. External Factors spurring innovation-This can be identified through turbulent and risky operating environment, sophisticated clientele, competition and a buoyant, favourable environment. This dimension consists of 5 questions.

2. Internal factors stimulating innovation- These are represented by high operating targets set by the management, conflicting goals and managements desire to make the organization unique. There are 3 questions in this dimension.

3. Activities of organisation assisting innovation-These can be measured by the outputs provided by the organization and their customization. It contains 2 questions.

4. Innovation orientation of the organization's management-This can be identified by preferences for pioneering novel products or services, preference for sophisticated or offbeat technologies and output, calculated risk taking, flexibility, innovation and experimental orientations. It contains 4 questions

5. Innovation growth strategies-These can be identified by being first with new offerings, effectively adapting foreign innovation, products or technologies, and alertness to seize any high potential product or services. This section contains 3 questions.

6. Innovative competitive strategies-These can be assessed by capability to improve/modify/innovate products/services, cutting cost by innovating processes, and having a strong market research orientation. This dimension has 3 questions.

7. Innovative scanning- This is represented by scanning the external environment for opportunities, threats, and significant innovations, and periodically studying the internal environment to junk the obsolete and adopt the beneficial. This section contains 2 questions

8. Innovation facilitating structure- This can be demonstrated by a decentralized organizational structure, flat organizational structure, self contained operating teams and a great deal of administrative flexibility. There are 4 questions in this segment.

9. Control to facilitate innovation- This aspect can be represented by the staff exercising self-control, holding strong norms of professional conduct, having a culture of innovation. This section contains 4 questions.

10. Culture building for innovation- This dimension can be demonstrated by wide dissemination of information on organization's mission, vision and goals, participatory process of goal setting, rewarding initiative and creativity and frequent brain storming sessions. It contains 4 questions

11. Motivation to spur innovation- This aspect can be shown by rewarding merit over seniority, incentivizing good work by challenging task and autonomy, This section contains 2 questions.

SAMPLE

1. The target population will be the representatives and the lasting labourers of association A (Indian Organization) and B (American Organization).

2. A sample of 100 was taken (50 representatives from both association A and B).

3. Sampling Technique: Accidental Sampling

4. Sources of information accumulation: Questionnaire based survey.

PROCEDURE

The Data for the present study will be gathered from different representatives of an Indian and an American association. The Subjects are required to peruse every one of the inquiries deliberately and select the most proper favoured answer.

DATA ANALYSIS

Information investigation is essential part of a venture, as it fundamentally includes the examination of all the data that we will gather. The data gathered should be broke down with the goal that we can translate data and give the support to the work done amid the examination. Information investigation is an assortment of techniques that portray certainties, distinguish designs, create clarifications and test theory. The field altering would be done after the information is gathered. The information would be broke down utilizing the SPSS programming and Microsoft Office. Understudies T-test will be done to decide the huge contrast between the inventive capacities of Indian and American association.

RESULT

Table 1.1: Summary of Scores of Indian (A) and American (B) Organisation

	FACTORS INFLUENCING INNOVATION	% (A)	% (B)
A	External factors spurring innovation	15.05	11.54
B	Internal factors stimulating innovation	8.53	7.66
C	Activities of Organisation assisting innovation	4.83	5.98
D	Innovation Orientation of the organisation's management	11.81	11.14
E	Innovative Growth strategies	8.33	8.17

F	Innovative competitive strategies	9.10	8.48
G	Innovative scanning	6.11	6.20
H	Innovative facilitating structure	10.78	11.18
I	Control to facilitate innovation	11.29	11.90
J	Culture building for Innovation	10.86	11.70
K	Motivation to spur innovation	3.68	6.01

Table 1.1depicts the percentage of all factors influencing innovation in Indian & American Organisation.

Table1.2						
Dimensions organisations		**Mean**	**N**	**Std. Deviation**	**Std. Error Mean**	**t**
Dimension 1	IND1	14.92	50	2.202	0.311	4.34
	AME1	12.66	50	3.485	0.493	
Dimension 2	IND2	7.96	50	1.511	0.214	-1.48
	AME2	8.4	50	1.485	0.21	
Dimension 3	IND3	4.78	50	1.516	0.214	-5.657
	AME3	6.56	50	1.343	0.19	
Dimension 4	IND4	11.68	50	1.72	0.243	
	AME4	12.22	50	1.418	0.201	-1.54
Dimension 5	IND5	8.24	50	1.393	0.197	
	AME5	8.96	50	1.16	0.164	-2.471
Dimension 6	IND6	9	50	1.75	0.247	
	AME6	9.3	50	1.298	0.184	-0.958
Dimension 7	IND7	6.04	50	0.989	0.14	
	AME7	6.8	50	0.904	0.128	-3.669
Dimension 8	IND8	10.66	50	2.255	0.319	
	AME8	12.26	50	2.193	0.31	-3.306
Dimension 9	IND9	11.16	50	2.142	0.303	
	AME9	13.06	50	1.659	0.235	-4.953
Dimension 10	IND10	10.74	50	2.302	0.326	
	AME10	12.84	50	1.346	0.19	-5.68
Dimension 11	IND11	3.64	50	1.782	0.252	
	AME11	6.6	50	0.904	0.128	-9.705

Table 1.2 depicts the mean, standard deviation, standard error mean and t-test score of both the organization on all factors influencing innovation.

The first parameter was external factors spurring innovation which consisted of an organisation coping up with unexpected variations in its market. Often the government policies and laws tend to hinder an organisation's operations. Sometimes basic issues like recession, power, raw material, information or changing staff or its unavailability also poses a problem. Organisation's customers have high demands in terms of price, delivery and above all quality.

On this dimension Indian organisation scored 15.05% and American Organisation scored 11.54%, this tends to reflect the fact that Indian organisation is conducive to innovation in view of the influence of external factors. Several study have been done in the past which depict the effect of external factors spurring innovation, one such study was done by Lin Jun,Liu Wei and Li Suicheng in 2011which stated the fact that social capital, participation, and creative capacities all directly affect the local production of an organisation and thus reduces the innovativeness that employees may portray. Although, the workers of both the organisation see the outer components in a positive light it can be stated that there was a Significant Difference found between organisation A (M=14.92, SD=2.202) and B (M=12.66, SD=3.485) in terms of their perception on External factors spurring innovation, conditions *t(49)=4.342, p=0.000.*

The second parameter was internal factors stimulating innovation. The inward components that fortified development as per the scale were a yearning administration with high working targets and a wish by the administration to be a novel association. Often internal factors give way to serious conflicts in the high blown goal the management aims at. The desire of the management to make the organisation distinctive also offer challenges if a realistic approach is not perused. In the year 2011 Ana L., Dionysis S. and Carmen L., conducted

a research highlighting organisation's introduction in terms of internal factors, is both client and contender, which tends to contribute as the driving creative capacities and it directly affect the abilities on a organisation's flow and future.

Indian organisation scored 8.05% on the second dimension though the American organisation scored worthy 7.66%. There was no significant difference seen between organisation A (M=7.96, SD=1.511) and B (M=8.40, SD=1.485) in terms of internal factors stimulating innovation, condition $t(49)= -1.481, p=0.145$. The findings suggest that both organisations are, as far as the internal variable is considered a rich source of development. An organisation can accordingly reveal its concealed potential for development on the off chance that it pays consideration on the inward environment of the association as far as its aspirations, targets and longing to be remarkable.

The next parameter is Activities of organisation assisting innovation. The organisation provides quite diverse outputs in terms of the products that are manufactures or the services that are delivered by it. It also has the proficiency of delivering custom tailored products or customized services to its diverse clients or customers. On this parameter both association A and B rose with unacceptable score of 4.83% and 5.98% separately. Thus it states that, In spite of the fact that the altered administrations include some significant downfalls still it gives a focused edge to the association over others and additionally supporting the way of life of development in genuine sense. Significant difference was seen between organisation A (M=4.78, SD=1.516) and B (M=6.56, SD=1.343) in the activities of organisation assisting innovation, condition $t(49)=-5.657, p=0.000$. Thus, it states the fact that American organisation is more prone to the dimension.

The fourth dimension is the innovative orientation of the management. A solid inclination to pioneer novel administrations, by selection of complex/strange advances, taking figured/calculated risk in business, operational adaptability/flexibility, Orientation for experimentation and finally usage of offbeat products/services/technologies is the foothold of this dimension. The management's expectation or preference for innovation orientation from its employees results in a number of strong decisions and actions on the part of both the management as well as the employees.

In this dimension with no such visible contrast both Indian and American Organisations scored high with 11.81% and 11.14% separately which stated that there was no significant difference found between organisation A (M=11.68, SD=1.720) and organisation B (M=12.22, SD=1.418) in the perception of employees on innovative orientation of organisations management, condition $t(49)= -1.542, p=0.129$. This justifies that with regards to spearheading oddities and unique advances both the organisation are pioneers as they take into account a corner customer base products and services when contrasted with other organisations. The ability to adapt is the key for innovativeness in today's scenario for organisations to excel.

In order to measure an organisation, one must consider viewing its growth strategies. The fifth dimension is the innovative growth strategies in which Indian Organisation scored 8.33% whereas American Organisation scored 8.17%. This parameter consists of being the first to showcase new administrations, prompting adjustment of outside advancement and only advances by having alertness to seize clever thoughts, regardless of the fact that are not identified with organisation. The organisation gives opportunity and acts as a nurturing ground for developing new and exciting ideas under its fold. The openness or the flexibility to effectively utilise foreign innovations or technologies gives it an edge thus making it highly potential. There was a significant difference seen between organisation A (M=8.24, SD=1.393) and B (M=8.96, SD=1.160) at 0.05 level on innovative growth strategies, condition $t(49)= -2.471, p=0.017$. This reflects that American organisations thrives on competition, to which innovative strategies provide a competitive edge. By being alert in seizing the right opportunity at the right time makes this organisation stand apart from its competitors.

Innovative competitive strategy is the sixth dimension. The innovative competitive strategies or imaginative focused techniques can be identified with the help of how aggressive change/adjustment/advancement of an organisation's administrations is, by implementing Cost –cutting by development hones, having stronger introduction to statistical surveying and finally building great relations with its customers. The organisation's continuous improvisation and modifications in its services and products allow it to earn a unique place for itself in the market. By doing so the organisation not only enhances the satisfaction level of the customers but also streamlines its expenses.

Indian Organisation scored 9.10% and American organisation scored 8.48% on this dimension. The employees of organisation A (M=9.00, SD=1.750) and B (M=9.30, SD=1.298) showed no significant difference on innovative competitive strategies, condition $t(49)= -0.958, p=0.343$. This reflects that, In order to be profitable

organisation much emphasis is given by both the organisations on cost-cutting for which adopting innovative practices seems a viable option without compromising on quality.

The innovative scanning of an association or organisation was measure by having aggressive examining of outside environment for circumstances, dangers, patterns and advancement and periodic checking of inner environment to garbage out off date and receiving new. The seventh dimension is Innovative scanning on which both Indian and American organisation scored low with 6.11% and 6.20% respectively. However, there was a significant difference between A (M=6.04, SD=0.989) and B (M=6.80, SD=0.904) on the innovative scanning parameter, condition $t(49)= -3.669, p=0.001$.

This tends to highlight that fact that, American organisation is gigantically profited by being creative scanner, which is inadequate in Indian organisation. Numerous open doors for advancement can be revealed if consideration is paid to the outside environment for innovative changes, demographic changes and development of new information. Additionally filtering the inner environment of the organisations on an occasional premise to garbage the out off date and embrace the new, be it strategies, structure, procedures or administration framework working in organisation.

The eighth dimension is Innovation facilitating structure which can be defined with the help of Decentralization where the highest level concentrates mainly on policy issues while the lower levels have the freedom to take decisions related to operation. Having a flat structure and promoting self –contained groups having multiple skills and multi-tasking capacities in organisation and making organisation Flexible are few of the other attributes.

Indian employees scored 10.78% though for American employees it was 11.18% which show a marginal difference. However, the employees of organisation A (M=10.66, SD=2.255) and organisation B (M=12.26, SD=2.193) showed significant difference on innovation facilitating structure aspect, condition $t(49)= -3.306, p=0.002$.Thus, it can be stated that advancement flourishes with adaptability and collaboration which is portrayed from the scores of American Organisation. Organisation structure is imperative, all things considered in making a free and adaptable workplace are essential to develop and to prosper.

The ninth dimension checks the perception of employees on the control exercised by the management for innovation. The accompanying parameter can be understood by identifying the people practicing poise instead of being controlled by their supervisors, having strong standards of expert behaviour, encouraging culture of development and having adequate formal control and execution reporting framework. Self control rather than control by superiors is the strength of this dimension. Adherence to strict professional norms with mutual enforcement defines it. Presence of control and performance reporting by management makes it invulnerable.

On this dimension both Indian and American organisation scores were conducive with 11.29% and 11.90% respectively. However, there was a significant level of difference between a perception of employees of organisation A (M=11.16, SD=2.142) and organisation B (M=13.06, SD=1.659) on control to facilitate innovation, condition $t(49)= -4.953, p=0.000$.As clearly visible by the score of American organisation, it is indicated that control by the administration assumes an essential part in the creative capacities of an organisation in light of the fact that without formal control components the imaginative potential would be directionless. The control ought to be a greater amount of discretion instead of bureaucratic control. Flexibility frames an indispensable piece of creative capacities of any innovation.

The tenth parameter is culture building for Innovation, which was assessed by widely spread vision, mission and objective of the association, participatory procedure of setting objectives, rewards for initiative, creativity, innovation and high achievement and frequent meeting between juniors and seniors to discuss possibilities of innovation. The organisation's mission and visions are clear indicators of its values and strengths. Their percolation amongst its employees is very important. The employees need to play a participatory role with free flow of information upwards and downwards. The performances in such organisations are rated on the basis of high level of achievement and innovative and creative capacity.

On this parameter organisation A scored 10.86% and organisation B scored 11.70%. Significant difference was found between organisation A (M=10.74, SD=2.302) and organisation B (M=12.84, SD=1.346) in terms of their perception on culture building for innovation, condition $t(49)= -5.683, p=0.000$.Good communication is the key to any organisation's success. This depicts the fact that Participatory process is also based on dissemination of information through excellent communication which is visible in American organisation. Reward innovative capabilities and creativity nurtures the culture of innovation.

The eleventh dimension which is the last dimension is Motivation to spur innovation Motivation was measured by emphasis on rewarding merit rather than seniority/loyalty and main incentives for good work are autonomy and challenging tasks. Every organisation expects worthwhile contributions from its employees and if these contributions go unrewarded it surely will harm the output of the organisation. Therefore, under this dimension emphasis is laid on recognizing and tapping merit rather than seniority or loyalty. Challenges and incentives help to motivate the employees and spur innovation. On this dimension Indian organisation scored 3.68% and American organisation scored 6.01%. There was a significant difference under the parameter Motivation to spur innovation between organisation A (M=3.64, SD=1.782) and B (M=6.60, SD=0.904), condition $t(49)= -9.705, p=0.000$. Thus, it can be said that American organisation's Motivation is better than Indian organisation. In American organisation reward is given on how excellent the employee has performed rather than on basis of his/her loyalty/seniority which is not in Indian organisation

CONCLUSION

There was a difference in the innovative capabilities of organization A and organization B due to the external factors (15.05% and 11.54%). The Indian organization was higher with the innovative capabilities while the American concern needed to improve on viewing the external factors as a stimulation to upgrade their innovative capabilities.

In response to the internal factors both the organizations were satisfactory with Indian organization at 8.05% and American organization at 7.66%.

The employees of both A and B organization felt that the activities of the organization were not a boost to their innovative potential with A at 4.83% while B was at 5.98%, Both the organizations need to address the issue by being more customised in their offerings as one size does not fill all.

The innovative orientation of the two select organization was also perceived quite similarly with organization A being at 11.81% while organization B being at 11.14%. This shows that both organization irrespective to different cultures actively use novel products and off-beat technologies. They are flexible in operations as well as experimental. This provides the organization with an competitive edge.

The perception on the innovative growth strategies again shows similarities with the percentage being at 8.33% and 8.17% for A and B respectively. It certainly shows that both the organization have continuously being brain-storming to pioneer new services and adopt unique technologies which have been identified to be of high potential.

The competitive strategies favouring innovation were found to be equal with A at 9.10% and B at 8.48%. It seems that the organization were aggressively improving and modifying its services to be innovative.

Innovative scanning potential of organization A and B was found to be at 6.11% and 6.20% that the management is aggressively scanning the external environment for significant opportunities , threats , technological and demographic changes and at the same time scans the internal environment to junk obsolete practices while adopting new.

Both the organization feels that the structure of the organization facilitates innovation with organization A scoring 10.78% and B scoring 11.18%. There is more power at the lower levels when it comes to decision making. The flow of information is form lower levels to top management than a top –down approach.

In the matters of management control both the organization faired satisfactorily with organization A at 11.29% and B at 11.90% which shows that the perception of having adequate control mechanisms to facilitate innovations is existent in both organizations.

On the parameter of Culture, Organization B fared better with 11.70% while organization A scored 10.86%. There exist a need for wide spread dissemination of information on organization's goals, mission and vision.

When it comes to Motivation it appears that organization B with 6.01% had better motivation factor to harbour innovative practices in the organization. The organization A with 3.68% seemed to lack sufficient autonomy in their work to forward innovative capabilities.

Thus, it can be stated that the American organization was comparatively high on innovative capabilities as compared to Indian organization though both the organizations scored high on diagnosis of your organisation's innovative capability scale.

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COMPARATIVE STUDY OF FINANCIAL PERFORMANCE OF PRIVATE AND PUBLIC SECTOR BANKS IN INDIA WITH SPECIAL REFERENCE TO PUNJAB NATIONAL BANK AND HDFC BANK

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ABSTRACT

Banking sector plays an important role in our Indian economy. After Nationalization, the Indian banking system has considerably developed with a large network of branches and wide range of financial instruments. Indian banking sector is mainly classified into Public Sector and Private Sector Banks; therefore this study is an effort to review the growth rate of both Private and Public Sector Banks with reference to HDFC Bank and Punjab National Bank.

The study is performed by analysis of growth in both the banks for a period of 5 years, from 2013 to 2017. The main parameters used for analysis of growth in banks are earnings per share, dividend per share, Return on Assets (ROA), Capital adequacy ratio and Non Performing Assets (NPA).

Keywords: Financial performance, Earning per share, dividend per share, Return on Assets (ROA), Non Performing Assets (NPA).

INTRODUCTION

Banking system plays a very significant role in the economy of a country. It is central to a nation's economy as it caters to the needs of credit for all the sections of the society. Money-lending in one form or the other has evolved along with the history of mankind. Even in the ancient times, there are references to the money-lenders, in the form of Sahukars and Zamindars who lend money by mortgaging the land property of the borrowers. Indian Banking system had played an important role in the economic growth of India since 18th century. RBI is the main authority of public sector banks, private banks, financial and non financial institutions. Banking system is classified into scheduled bank and non scheduled bank.

Towards the beginning of the 20 century, with the onset of modern industry in our country, the need for Government-regulated banking system was felt. The British Government began to pay attention towards the need for an organized banking sector in the country and the Reserve Bank of India was set up to regulate the formal banking sector in the country. Ever since they were nationalized in 1969, banks have been playing a major role in the socio-economic life of the country. They have to act not only as purveyors of credit, but also as harbingers of social and economic development through a variety of enterprises, many of which may tiny and yet capable of generating productive energies.

India is not only the world's largest independent democracy, but also an emerging economic giant. Without a sound and effective banking system, no country can have a healthy economy. For the past three decades, India's banking system has several outstanding achievements to its credit. It is no longer confined to only the metropolitans, but has reached even to the remote corners of the country. This is one of the reasons of India's growth process.

One of the eminent public sector banks, the Punjab National Bank, was established in 1895. Bank has strong capital base with capital adequacy ratio 12.89 as in March 2014. The bank has paid up capital of 370.91 crore as on March 2014, with more than 120 years of purposeful existence more than 8.9 crore customers through 6200 branches it has grown. An eminent public sector Bank, HDFC Bank was established by Reserve Bank of India in 1994. It was the first bank to the approval by RBI to set up as Private Sector Bank. The paid up share capital as on March 2014 is Rs.501, 2990,634, its capital adequacy ratio as on March 2014 is 16.1 and it has 3659 branches with 11766 ATMs.

As the Indian banking sector is mainly classified into public sector and private sector banks, this study is an effort to review the growth rate of both types of banks, through a comparative study between the financial performance of HDFC Bank (private sector) and PNB (public sector banks).

The study is performed by analysis of various performance indicators in both of the banks for a period of 5 years, i.e. from 2013 to 2017, Earnings per share, Dividend per share, Return on Assets (ROA), Capital adequacy ratio and Non Performing Assets (NPA).

REVIEW OF LITERATURE

Bahia, K and J Nantel (2000) in his paper suggested an alternative scale for measuring service quality in retail banking and developed a scale called as Banking Service Quality Scale which contained factors like

effectiveness and assurance, access, price, tangibles, service portfolio and reliability and was found to be more reliable than SERVQUAL.

Nag and Das (2002) studied the impact of imposition of capital requirement norms on flow of credit to the business sector by public sector banks of India and the results showed that in the post reform period, public sector banks did shift their portfolio in a way that reduced their capital requirements.

Sure Shehan Dar (2002) ascertained that the relationship between service quality and customer satisfaction in Indian banking sector were found to be independent but closely related. Both constructs were found to vary significantly in core services, i.e., human element, systematization of service delivery, tangibles and social responsibility.

Arora, S. (2005) has undertaken an analysis influencing customer satisfaction in public sector, private sector and foreign banks in northern India. 300 customers were questioned using questionnaire method which revealed that significant differences exist in customer satisfaction level of customers in each group of banks regarding routine operation and situational and interactive factors. Foreign banks were found to be the leaders in mechanization and automation.

OBJECTIVES OF THE STUDY
1. To review the financial performance of private sector (HDFC Bank) with public sector (PNB) banks.

2. To compare the financial performance of private sector (HDFC Bank) with public sector (PNB) banks.

RESEARCH METHODOLOGY
The present study is analytical in nature and based on secondary data collected mainly from annual reports of banks. The study has been conducted for a period of five years ranging from 2012-13 to 2016-17. For the purpose of the study two commercial banks each from public sector and private sectors were selected. Punjab National Bank representing public sector banks and HDFC as a representative of private sector banks were selected for the study. Compound Annual Growth Rate (CAGR) of profitability and assets has been used as a proxy of financial performance of the selected banks.

ANALYSIS OF IMPORTANT PERFORMANCE INDICATORS
Profitability Analysis

Table 1: Earnings per share

Year	HDFC Bank	Punjab National Bank
2012-13	28.49	139.52
2013-14	35.47	93.91
2014-15	42.15	16.91
2015-16	48.84	-20.82
2016-17	57.18	6.45
Average	42.426	47.194

Source: Financial Statements of HDFC &PNB

Table 1- shows Earnings per share (EPS) are the portion of a company's profit allocated to each outstanding share of common stock. Earnings per share serve as an indicator of a company's profitability. As it can be seen from the above table that EPS of PNB has decreased over the period of study, it showed a negative figure in 2015-16 indicating loss and decline in profitability during study period while in case of HDFC, average EPS is Rs 42.42 indicating sound financial performance.

Table 2: Dividend per share

Year	HDFC Bank	Punjab National Bank
2012-13	5.5	27
2013-14	6.85	10
2014-15	8	3.3
2015-16	9.5	0
2016-17	11	0
Average	8.17	8.06

Source: Financial Statements of HDFC &PNB

Table 2- Dividend per share (DPS) is the sum of declared dividends issued by a company for every ordinary share outstanding. Dividend per share (DPS) is the total dividends paid out by a business, including interim dividends, divided by the number of outstanding ordinary shares issued.

In case of Punjab National Bank average Dividend per share was Rs. 8.06; however bank did not pay any dividend in 2015-16 and 2016-17. HDFC have paid a dividend of Rs. 8.17 per share during study period. HDFC has been more consistent in paying dividend to the share holders.

Table 3: Return on Assets

Year	HDFC Bank	Punjab National Bank
2012-13	1.68	0.99
2013-14	1.72	0.6
2014-15	1.73	0.5
2015-16	1.73	-0.59
2016-17	1.68	0.18
Average	1.708	0.336

Source: Financial Statements of HDFC &PNB

Table 3-Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Average return on assets for HDFC bank during the study period is 1.708, higher than that of PNB, indicating better return in comparison to PNB.

CAPITAL ADEQUACY ANALYSIS
Table 4 shows capital adequacy ratio maintained by both the banks during study period. The capital adequacy ratio (CAR) is a measure of a bank's capital. It is expressed as a percentage of a bank's risk weighted credit exposures. Also known as capital-to-risk weighted assets ratio (CRAR), it is used to protect depositors and promote the stability and efficiency of financial systems around the world.

Table 4: Capital Adequacy Ratio

Year	HDFC Bank	Punjab National Bank
2012-13	16.8	12.72
2013-14	16.07	12.11
2014-15	16.79	12.89
2015-16	15.53	11.28
2016-17	14.6	11.66
Average	15.958	12.132

Source: Financial Statements of HDFC &PNB

As can be seen from the table HDFC bank has been more stable and efficient in terms of CAR than PNB.

NON PER FORMING ASSETS ANALYSIS
A nonperforming asset (NPA) refers to a classification for loans on the books of financial institutions that are in default or are in arrears on scheduled payments of principal or interest. In most cases, debt is classified as nonperforming when loan payments have not been made for a period of 90 days. While 90 days of nonpayment is the standard period of time for debt to be categorized as nonperforming, the amount of elapsed time may be shorter or longer depending on the terms and conditions set forth in each loan.

Table 5: Non Performing Assets of HDFC Bank

Year	Gross NPA	Net NPA	% of Gross NPA	%of Net NPA
2012-13	2,334.64	468.95	0.97	0.2
2013-14	2,989.28	820.03	1	0.3
2014-15	3,438.38	896.28	0.9	0.2
2015-16	4,392.83	1,320.37	0.94	0.28
2016-17	5,885.66	1,843.99	1.05	0.33

Source: Financial Statements of HDFC &PNB

Table 6: Non Performing Assets of Punjab National Bank

Year	Gross NPA	Net NPA	% of Gross NPA	% of Net NPA
2012-13	13,465.79	7,236.50	4.27	2.35
2013-14	18,880.06	9,916.99	5.25	2.85
2014-15	25,694.86	15,396.50	6.55	4.06
2015-16	55,818.33	35,422.57	12.9	8.61
2016-17	55,370.45	32,702.11	12.53	7.81

Source: Financial Statements of HDFC &PNB

As can be seen from both the table PNB has more Gross and net NPA than HDFC bank indicating better management of HDFC than PNB.

CONCLUSION AND SUGGESTION

From the above analysis it can be concluded that EPS of PNB has decreased over the period of study, it showed a negative figure in 2015-16 indicating loss and decline in profitability during study period while in case of HDFC, average EPS is Rs 42.42 indicating sound financial performance. In case of Punjab national bank average Dividend per share was Rs. 8.06, however bank did not pay any dividend in 2015-16 and 2016-17. HDFC have paid a dividend of Rs. 8.17 per share during study period. HDFC has been more consistent in paying dividend to the share holders. Average return on assets for HDFC bank during the study period is 1.708, higher than that of PNB, indicating better return in comparison to PNB. HDFC bank has been more stable and efficient in terms of CAR than PNB and PNB has more gross and net NPA than HDFC bank indicating better management of HDFC than PNB.

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REAL ESTATE ASSET MANAGEMENT BY PUBLIC SECTOR BANKS

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ABSTRACT
Real Estate Sector has been considered as the lucrative source of Investment in India as it is the fastest growing markets in the world. The bank financing is the major part for the development of Real Estate Sector Development in India. This paper focuses on State Bank of India and Punjab National Bank financing to Residential Real Estate, Commercial Real Estate and Indirect lending to National Housing Bank and Housing Finance companies. The State Bank of India shows that the correlation between Residential Lending, purchase and construction lending and National Housing Bank is strongly positive and on the other hand Punjab National Bank shows positive correlation between residential lending and Investment in Mortgage back Securities which reflects both banks can be considered for taking finance for the development in the Real Estate Sector . According to the Market Share and Contribution made by State Bank of India and Punjab National Bank, the State bank of India is the better option for taking financing for real estate development by the Real Estate developers of India.

Keywords: Real Estate, Residential, Commercial, Banks, Loans, Public sector etc.
Jel Codes: L85, D3, L9, R31, L5, D4

INTRODUCTION
The Indian Real Estate is the premium sector of our economy. It is becoming the critical sector as the demand for the Real Estate Sector is increasing because of large volume of population in India. The various reforms have been launched by the Prime Minister Narendra Modiji like REIT (Real Estate Investment Trust) and RERA (Real Estate Regulation Act), Pradhan mantra Awas Yojna(PMAY) to support in the development of Real estate Sector in India . The Real Estate Sector contributes around 5 to 6 % in country's GDP (Gross Domestic Product). The public sector bank plays the major role in financing the Real Estate sector Development in India. The Real Estate sector is divided into sectors[1]:

- **Residential Real Estate**
It contains single firm entity for occupation and non-business purposes.

- **Commercial Real Estate**
The property includes land and building which provides the rental gain and capital gain.

The Banks, Non-banking financing company and private companies are involved in financing both Residential and Commercial Real Estate which leads to the development of the Real Estate Industry in India.

Asset Management by Banks[2]
The banks manage the asset by evaluating the individual's particular property and develop the loan portfolio. The Banks see the following points before giving the loans for Real Estate:

- The Loan Applied by you in last 10 to 15 years.

- The references for the bad credit if any in the last seven years.

- Any Bankruptcies or judgments

- Past Residential Address

It tells your credit history to the banks, NBFC and Private Companies in the real world[3]

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Banks	RESIDENTIAL FINANCING
NBFC(Non-Banking Financial Company)	The financing/loan that one or more persons get in order to build the house or for the residential property in which they live. The loan is basically secured by the lien on property or the borrowers pay over the specified period of time.
Private Companies	COMMERCIAL FINANCING It is way of offering the loans to business for commercial real estate development (office purpose, for BPO development etc.). It is generally offered by banks or other lender.

SBI[4] (State Bank of India) is the largest public sector bank in India. It is wholly owned by the government with its headquarters in Mumbai, Maharashtra. The market share of SBI (State Bank of India) in Real estate sector in the Year 2017 is 25.88% which is highest as compare to the public sector banks and Non-Banking Financial Company.

PNB[5] (Punjab National Bank) is a state-owned corporation which is based in New Delhi. It is the second largest Public sector banks in contribution to Real estate Sector after State bank of India.

 Market share of SBI (State bank of India) and PNB (Punjab National Bank) in Real Estate financing in India(%)

Table: 1

Years	Market Share of SBI (State bank of India) (%)	Market Share of PNB (Punjab National Bank) (%)
2011	21.88	18
2012	26	16.9
2013	25.94	13.3
2014	26.02	19
2015	25.24	19
2016	25.52	18
2017	25.88	17
2018E	26.6	18.01

Source: Annual Reports of SBI and PNB.

Graph: 1
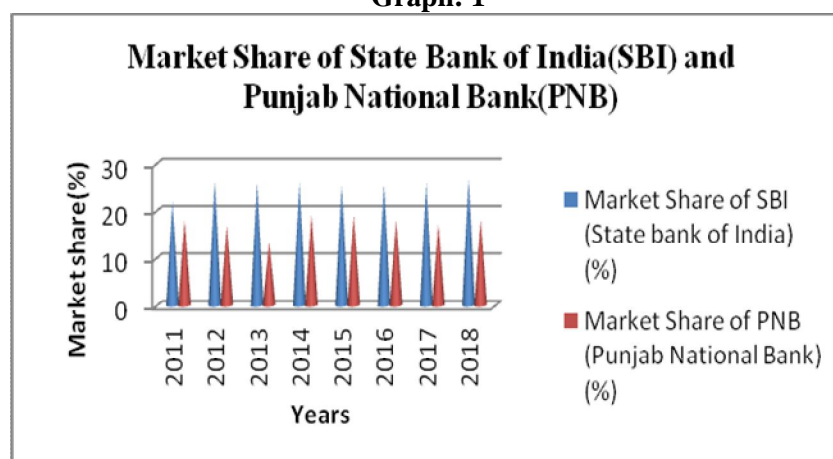
INTERPRETATION
According to the Table 1 and Graph 1 Market Share of the State bank of India In Real estate Financing has highest market share as compare to the Punjab national bank which shows that State Bank of India is the market

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[4] Annual Reports of SBI Bank

[5] Annual Reports of PNB Bank

leader as compare to the Punjab National banks in Financing to Real estate sector in India. The State Bank of India depicts the increasing trend every year as compare to the Punjab National Bank. Punjab national bank is also financing real estate sector but less as compare to the State bank of India. It is around 26 % in the year 2017 of State bank of India and 17% of Punjab National Bank. Every year SBI market share is increasing and Punjab National bank share is increasing but at less percentage compared to State bank of India. The Estimated market share of 2018 that is 26.6% of SBI and 18.01% of PNB also shows that State bank of India is the major player compared to Punjab national bank.

REVIEW OF LITERATURE
Roza Hazli Zakaria and Abdul Ghafar Ismail (2008) have found that bank involvement in securitization activity do restrain their lending activity. It needs to be analyzed and restricted.

Timoty Tunde and Biyoe Tajudeen Aluko (2012) have interpreted the corporate governance and Real Estate asset Management of banks. This study shows that Real Estate is a 'turnaround' tool that can be adopted by bank executive to improve financial status.

Akinwumni Abedoyoe, Gamenson Rod, Hammond Felix and Paul.A.Lamoliye (2012) have examined the overview of Residential Real Estate Financing in Nigeria which shows the changes in housing market, macro-economic stability and monetary policy related to Real Estate.

Victor Ekka and Alberto Paloni (2016) focus on business lending and banks profitability in U.S.A. This study shows the importance of business lending as a source of bank profits in the U.K banking system. The lending is done by heterogeneous characteristics of individual banks.

Claudice Giannote, Lucia Gibilaro and Ginicula Mattroci have done study on Liquidity Risk Exposure for Specialized and Unspecialized Real Estate Banks. This paper shows the comparison of bank specialized on real estate lending with overall market in order to test the liquidity risk which reflects the ability of the banks to fund increase and the behavior towards firm characteristics.

OBJECTIVES OF THE STUDY
- To study the role and Importance of Real Estate financing in India.

- To study the comparison of Real Estate financing in public sector banks.

- To find out the correlation between Residential Mortgages Lending, purchase and construction lending and Investment in Mortgage Back Securities by SBI (State Bank of India) and Punjab National Bank(PNB).

- To provide recommendations to Real Estate Developers that from which banks financing is suitable for future projects.

RESEARCH METHODOLOGY
The research is descriptive[6] in nature. The data is collected from the research papers, reports (Annual reports of banks, Research Paper.). The data is based on the secondary sources. The Karl Pearson Correlation[7] is used to find the correlation between Residential Mortgages lending and Investment in Mortgage Back Securities (Residential) of State Bank of India and Punjab National Bank. The forecasting Method[8] is also used to predict the future Lending of the banks based on past events.

STATE BANK OF INDIA (LENDING IN REAL ESTATE SECTOR DEVELOPMENT)
Residential (Direct Lending)

Table: 2

Years	Residential Mortgages Lending (INR Crores)	Lending for the purchase/construction of dwelling units per family(INR Crores)	Investment in Mortgage Back Securities(INR Crores)
2011	114199.40	73628.78	164.86
2012	125992.41	76980.09	127.64
2013	150165.96	87575.87	601.48
2014	156145.83	69270.80	453.77
2015	183082.23	94330.55	603.28

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[6] Descriptive research is used to describe characteristics of a population or phenomenon being studied

[7] It shows linear relationship between variables and has the values between +1 and -1.

[8] Forecasting Method basically refers to the future predictions based on past

2016	206765.40	104934.43	877.99
2017	251386.94	106094.23	214.69
2018E	256251.9	110410.6	670.81

Source: SBI Annual Reports

Graph: 2
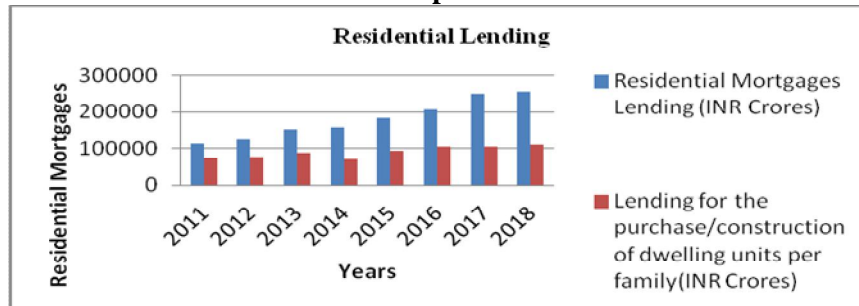
Graph: 3
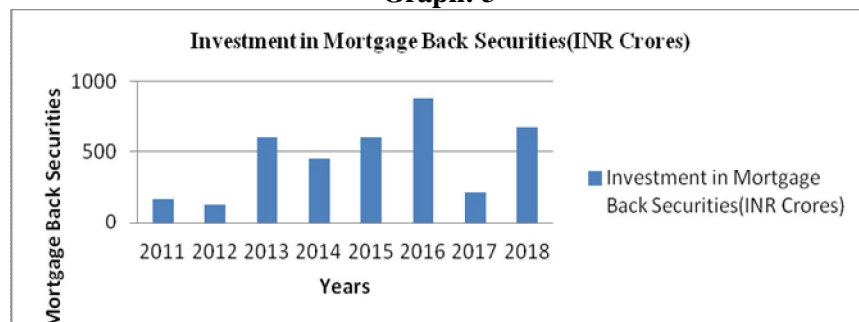
INTERPRETATION

According to the Table 2 and Graph 2 and Graph 3 the Residential Lending is high in the year 2017 that is 251386 crores, lending for purchase and construction is 10609.72 and investment in mortgage back securities is 877.9 in 2016. The estimated value is also high as compare to other years. The contribution by the State bank of India is large in Residential Financing as compare to the Punjab National Bank which depicts that State bank of India is the major player in the market. The State bank of India has one fourth share in the market as compare to Punjab national Bank.

Table: 4
Correlations

		RESIDENTIALL ENDING	PURCHASE LENDING	INVESTMENTINMORTGAGEBA CKSECURITIES
RESIDENTIAL LENDING	Pearson Correlation	1	.906[**]	.424
	Sig. (2-tailed)		.002	.295
	N	8	8	8
PURCHASE LENDING	Pearson Correlation	.906[**]	1	.531
	Sig. (2-tailed)	.002		.176
	N	8	8	8
INVESTMENTINMORTG AGEBACKSECURITIES	Pearson Correlation	.424	.531	1
	Sig. (2-tailed)	.295	.176	
	N	8	8	8

Source: Authors Own Compilation

INTERPRETATION

According to the Table 4 Karl Pearson Correlation shows strong positive correlation between residential lending, purchase/construction lending and weak positive correlation with Investment in Mortgage back securities which depicts that residential mortgage lending is high as compare to purchase lending and investment in mortgage back securities by State Bank of India.

Commercial (Direct Lending)

Table: 5

Years	Commercial Mortgages Lending (INR Crores)	Investment in Mortgage Back Securities (INR Crores)
2011	14011.31	21.87
2012	12674.38	26.90
2013	14973.37	5.64
2014	17503.82	260.99
2015	20761.65	11.20
2016	27364.60	-
2017	36915.86	-
2018E	35441.05	171.695

Source: SBI Annual Reports

Graph: 4
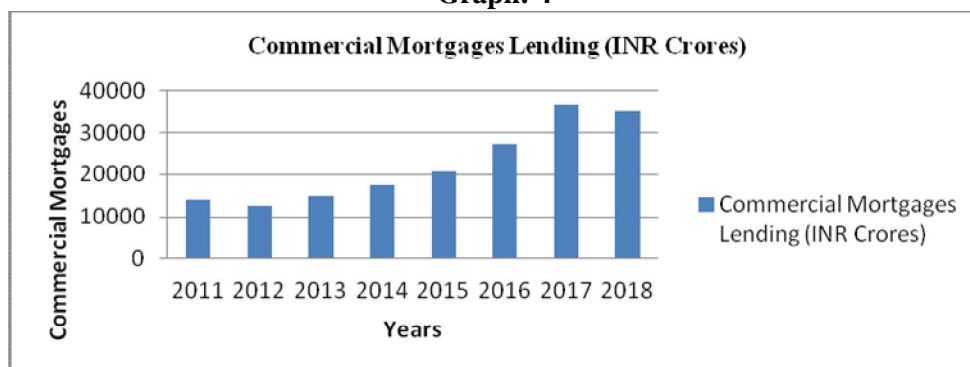
Graph: 5
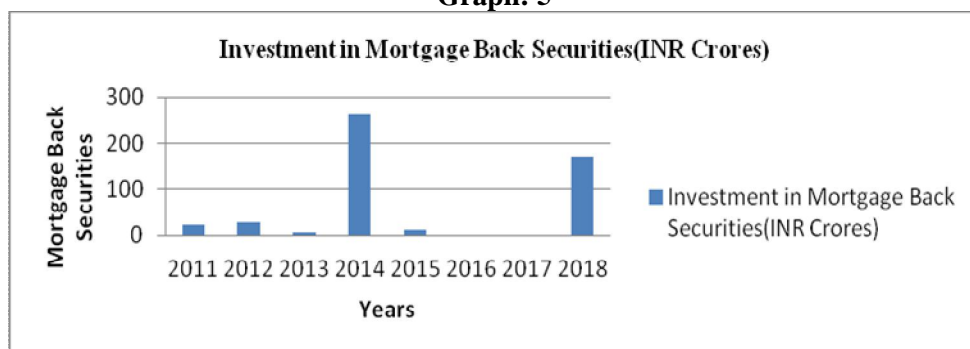
INTERPRETATION

According to the Table 5, Graph 4 and 5 the commercial mortgage lending is high in the year 2017 that is 36915 crores as compare to the other years and the estimated value for the next year is also high which reflects that State bank of India is the major player in lending for the commercial real estate. The State Bank of India is also financing more in commercial real estate as compare to the Punjab national Bank. The Investment in mortgage Back securities in commercial Real estate shows the upward and downward trend.

Indirect Lending

Table: 6

Years	Fund-Based and Non-Fund based Exposures on NHB(National Housing Bank) and HFC(Housing Finance Companies).(INR Crores)
2011	6226.05
2012	5847.03
2013	7839.94
2014	167999.86
2015	18930.16

2016	28656.55
2017	70703.93
2018E	79478.06

Source: SBI Annual Reports

Graph: 6

INTERPRETATION

According to the Table 6 and Graph 6 the Indirect lending to National Housing Bank and Housing Finance companies is high in the year 2014 ie.167999 crore and low in the year 6226.05 crores. From the year 2014 the lending to these concerns are increasing which shows State Bank of India act as a major player in this sector. The State Bank of India contribution is high as compare to Punjab National Bank.

PUNJAB NATIONAL BANK (CONTRIBUTION/LENDING IN REAL ESTATE SECTOR DEVELOPMENT)

Residential (Direct Lending)

Table: 7

Years	Residential Mortgages Lending (INR Crores)	Investment in Mortgage Back Securities(INR Crores)
2011	21972.26	2.71
2012	24605.66	.87
2013	29171.91	.22
2014	37361.48	.07
2015	41603.50	-
2016	40794.03	-
2017	46939.77	-
2018E	51737.07	-3.476

Source: Annual Reports of PNB

Graph: 7
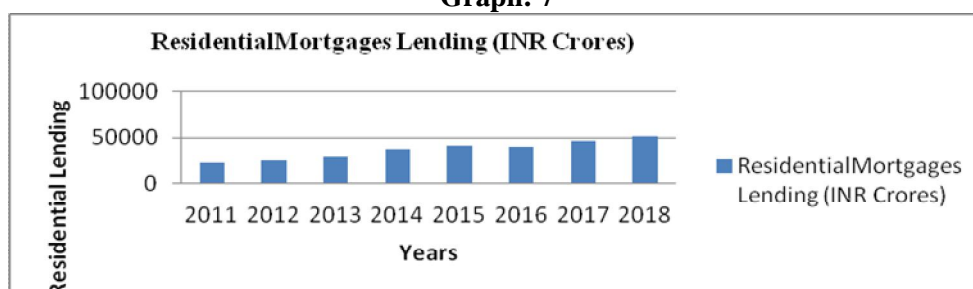
Graph: 8

INTERPRETATION

According to the Table 7 and Graph 7 and 8, It shows residential Lending by Punjab National Bank is increasing in the year 2017 that is 46939.77 as compare to other years and the investment in mortgage back securities is low and becomes nil till 2017. The market share of PNB in Real Estate Market is 17% which is less as compare to State Bank of India, which reflects that State bank of India is the major player of lending in Real Estate Sector in India.

Table: 8
Correlations

		RESIDENTIALLENDING	INVESTMENTINMORTGAGEBACKSECURITIES
RESIDENTIALLENDING	Pearson Correlation	1	-.825[*]
	Sig. (2-tailed)		.012
	N	8	8
INVESTMENTINMORTGAGEBACKSECURITIES	Pearson Correlation	-.825[*]	1
	Sig. (2-tailed)	.012	
	N	8	8

Source: Authors own compilation

INTERPRETATION

According to the Table 8 Karl Pearson correlation shows that there is a strong positive correlation between residential lending and Investment in Mortgage Back Securities and on the other hand weak negative correlation with Mortgage Back Securities. The Residential lending is high as compare to investment in mortgage back securities by Punjab national Bank.

Commercial (Direct Lending)

Table: 9

Years	Commercial Mortgages Lending (INR Crores)	Investment in Mortgage Back Securities (INR Crores)
2011	16243.11	-
2012	16119.23	-
2013	12037.31	-
2014	13566.31	-
2015	11860.80	-
2016	13916.00	-
2017	11804.01	-
2018E	11092.36	-

Source: Annual Reports of PNB

Graph: 9
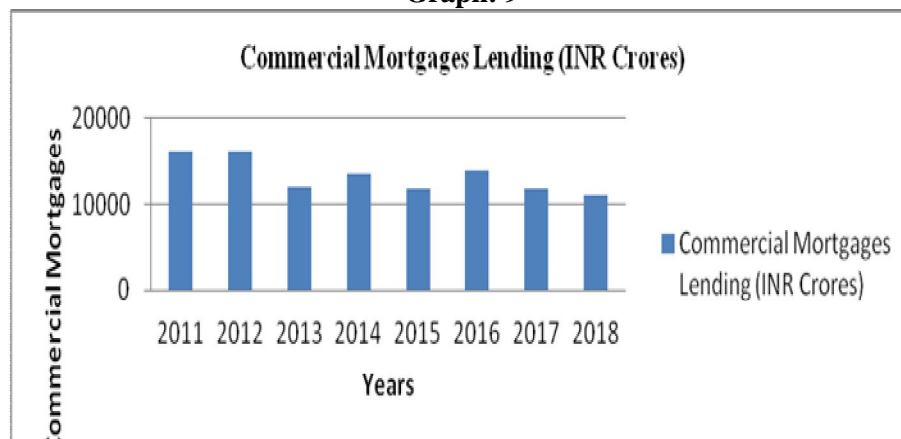
INTERPRETATION

According to the Table 9 and Graph 9 the commercial mortgages lending is high in the year 2011 that is 16243 crores and in other years the lending is good by the Punjab National Bank but it is less as compare to State bank of India lending.

Indirect Lending

Table: 10

Years	Fund-Based and Non-Fund based Exposures on NHB(National Housing Bank) and HFC(Housing Finance Companies).(INR Crores)
2011	4469.69
2012	7748.83
2013	13566.31
2014	12037.31
2015	11427.59
2016	15285.79
2017	14291.68
2018E	17318.84

Source: Annual Reports of PNB

Graph: 10

Fund-Based and Non-Fund based Exposures on NHB(National Housing Bank) and HFC(Housing Finance Companies).(INR Crores)
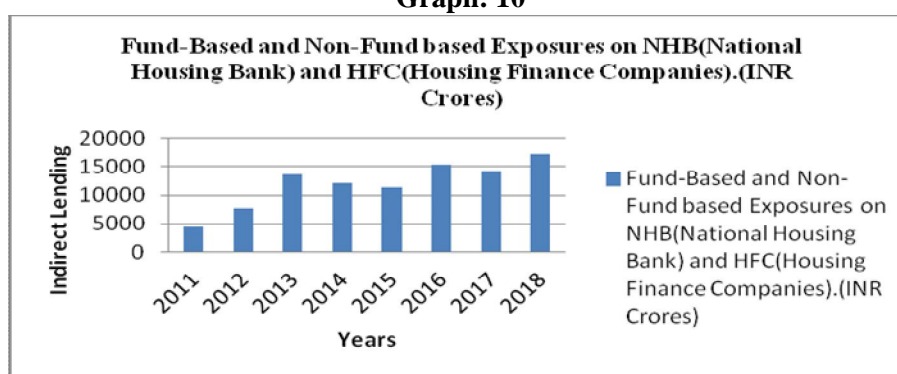
INTERPRETATION

According to the Table10 and Graph 10 the Punjab National Bank contributes Rs15285 Crores in the year 2016 and estimated value is also increasing ie.17318.84 Crores which shows that there is good amount of contribution in National Housing Finance and Housing Finance companies but it is lower as compare to State bank of India.

CONCLUSION

This paper shows that correlation between residential lending, purchase and construction lending and investment in mortgage back securities is strongly positive by State bank of India and on the other hand Punjab National bank shows that residential lending and Investment in mortgage back securities is positive correlated which reflects both banks can be considered for taking financing but according to the market share and contribution made by them in Residential and Commercial Real Estate, Indirect Lending ,the State bank of India is the better option for taking finance for Real estate Sector development in India . The State Bank of India is the largest player for lending to Real estate sector in India as compare to the Punjab national Bank. According to the results from the annual reports of SBI and PNB, the Real Estate Sector developers should take loan from the bank which has largest lending base in Real Estate sector Development in India.

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PERCEIVED PARENTAL EXPECTATIONS AMONG HIGH SCHOOL STUDENTS

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ABSTRACT

Parental expectation effect overall development of adolescent. It is a very important variable so the present studies focus on to find out parental expectation among high school students. For this we administered Hindi translation of perception of parental expectations inventory constructed and standardized by Dr. S. Karunanidhi and Dr.S. Sasikala and administered it on 300 high school students of government schools of Dehradun and Haridwar district of Uttrakhand. Then Statistical measure Mean S.D and C.R. was calculated for analysis of data. The results reveal that there was significant difference between overall male and female students in respect to their scores on parental expectations (t=-5.18)and urban male and urban female student are also differ significantly the found t value is (t= 2.50), rural male and rural female students are also significantly differ in respect of their score on parental expectation. So we can say parents have different expectation from their male and female children. This effect significantly to their achievement level.

Keywords: Achievement, Adolescent's behaviour problems, Gender, Inhabitation, Parental expectation

INTRODUCTION

Parental expectations are beliefs or aims that parents hold about their children's future performance and are mainly focused on achievement-related areas such as educational, professional. Of many family variables, parental expectations have been singled out as the most salient and powerful force contributing to children's school achievement, especially parental expectations for children's educational attainment have been found to be significantly related to both the child's current achievement and later achievement. Adolescents' mental, emotional and social developments are significantly influenced by parents. The Indian adolescent student faces too many problems in relation to education. In addition they are also instigated by parental pressure, demands and expectations could be fulfilled by few students whereas other could not do so. This may be main cause for the increased prevalence of behaviour problems and psychological disorders among Indian adolescents. parental expectation play a pivotal role in determining a child future. Expectations are realistic beliefs or judgements about future events. These can be contrasted to aspirations which are desires, wishes, or goals. All parents keep some expectation from their children. Expectation parents have for their children's school attainment influence their children's expectations and achievement, and early expectations tend to persist throughout the child's school years (Entwisle, D.R., et.al.2005).

Parental academic expectations is very important in shaping their children's academic expectations (e.g., Bandura et al.1996; Goyette and Xie 1999; Smith 1981). Bandura et al. (1996) found that children whose parents had high academic aspiration for them generally had higher academic self efficacy compared to children whose parents did not. Smith (1981) found that both perceived maternal and paternal academic expectations were significantly associated with adolescents' own expectations, and that the association was stronger for mothers' academic expectations than for those of the fathers. Parental academic expectations were also positively associated with adolescents' academic expectations in a sample of immigrant youths (Aldous 2006). So we can say that parents'expectations clearly influence the development of children's academic expectations. Aldous (2006) found that adolescents' academic achievement was high when parents and adolescents both had high academic expectations

This type of finding also seen by in a study by Benner and Mistry (2007) that parents' and teachers' educational expectations affect adolescents' academic achievement, their finding suggested that parents' and teachers' expectations independently influenced youths academic outcomes, and that high parental expectations buffered the negative effects of low teacher expectations. Perception of parental expectations (rather than actual expectations) can also positively influence adolescents'academic achievement.

Hao and Bonstead-Bruns (1998) found that adolescents who perceived that their parents had similar expectations as they did tended to perform well academically. On the other hand, when there was a perceived mismatch in students' and parents' expectations, the students' academic performance suffered. So it can be said that perceived parental expectations, can have very important influence on students achievement.

Yang (1981) reported that the decision of youth to enter college was strongly influenced by the expectations of their parents. Lee (1984) advised that "parents, regardless of their racial background, need to be fully aware of their influence on the aspirations and expectations of young men and women" Kotrlik & Harrison (1989)

concluded that students perceive that their parents influence their career choice more than any other person, and the mother is more influential than the father. Most students also perceived that their parents, teachers, and counselors were all encouraging college attendance after graduation from high school. Interest in the work, working conditions, salary, wages, and personal satisfaction were the leading factors considred by seniors when selecting a career.

Social class is closely related with parental expectations. Parental expectation are also determined by socio economic status.Kao and Tienda (1998) identified that Hispanic and African American adolescents have initially high educational expectation, but when they realize their educational opportunities are limited (either from low socioeconomic status or poor grades), they are more likely to make downward adjustments to their expectations. In general as per research shown that high parental expectations are beneficial to positive academic achievement regardless of adolescents'socioeconomic and ethnic backgrounds (Aldous 2006; Chen and Lan 1998; Patrikakou 1997; Smith 1981,1991).

Perceived parental expectation are also influenced by parental attitudes towards their children parental attitudes towards their children have strong impact on developing sense of self and self-esteem, with parental warmth and support being key factors for the child (Richards, Gitelson, Petersen, and Hartig,1991). Often, parents give subtle messages regarding gender and that is acceptable for each gender, these things are internalized by the developing childrens(Arliss,1991). Sex role stereotypes are well established in early childhood. These things put strong impact on perceived parental expectation in female child as well as male child. Message about what is appropriate based on gender are so strong that even when children are exposed to different attitudes and experiences, they will revert to stereotyped choices (Haslett, Geis, and Carter, 1992). So perceived parental expectation is very important in deciding a child future keeping all these things in mind following objectives are taken for this study.

OBJECTIVES
1. To assess the level of parental expectation among male and female high school students.

2. To assess the level of parental expectation among rural and urban inhabitant high school students.

3. To study the difference in the level of parental expectation between the groups with respect to gender and area (inhabitantation).

HYPOTHESES
1. There would be significant difference between the male and female students in respect of   their score on parental expectations scale.

2. There would be significant difference between urban and rural inhabitant high school students in respect of their score on parental expectation scale.

3. There would be significant difference between the groups in mean scores of parental expectations with respect to gender and inhabitation.

METHODOLOGY
Sample
The sample comprised 300 high school students. This sample is bifurcated into two groups urban and rural. By urban area we mean the region surrounding a city. Urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads and railways, while rural area is a geographic area that is located outside towns and cities which have a low population density and small settlements. Following urban area from Uttrakhand state namely Dehradun and Haridwar districts are selected. For urban area a sample of 200 (100 males and 100 females) were randomly selected. For rural area Garhi, Khadri, Raiwala, Chidderwala area were selected and a sample of 200(100 males and 100 females) was taken.

Tool Used
Perception of Parental Expectation Inventory is developed by Prof. S. Karunanidhi and Dr. S. Sasikala to measure the parental expectations of adolescents. The Inventory has 30 statements related to parental expectations perceived by adolescents. It has four dimensions, the number of items in each dimension are as Personal Expectations:10 items, Academic Expectations: 8 items, Career Expectations: 5 items, Parental Ambitions: 7 items. The items were scored according to the dimensions using 5 (all the time), 4 (most of the time), 3 (sometimes), 2 (very rarely) and 1 (not at all). The scores were added to get a composite score of the overall perception of parental expectations.

Procedure

The investigator communicated with the principals of government schools and got permission for collecting the data. After getting permission the researcher interact with high school students and establish rapport with them. After giving proper instruction the scale is administered on students and collects the data. The obtained responses were scored with the help of manual and data was analyzed by statistical techniques mean, S.D. and t-test and F-test.

INTERPRETATION OF RESULTS

Table-1: Showing mean, S.D, and t- value between male and female, urban and rural, high school students on parental expectation scale.

Scale	Subjects	N	M	S.D.	t-value
Parental expectation	Male	150	131.02	10.37	5.18**
	Female	150	136.92	9.34	
Parental expectation	Urban	150	134.19	9.55	0.36
	Rural	150	133.76	11.01	
Parental expectation	Urban Male	75	132.28	9.20	1.48
	Rural Male	75	129.77	11.35	
Parental expectation	Urban Female	75	136.10	9.55	1.22
	Rural Female	75	137.74	9.11	
Parental expectation	Urban Male	75	132..28	9.20	2.50*
	Urban Female	75	136.10	9.55	
Parental expectation	Rural Male	75	129.77	11.35	4.74**
	Rural Female	75	137.74	9.11	

** - significant at 0.01 level, * significant at 0.05 level

In table-1 result 1 shows that mean of female students on parental expectation was found to be higher (136.92) than the male students (131.02),and yield t- value for these two means was (t-5.18 p<0.01) found to be significant at both level of significance, here we can say that female perceive more parental expectation from their parents.

Result 2 indicates that the mean score of urban students (M=134.19) is slightly greater than mean of rural students (M=133.76) and yield t- value for these two means was found to be (t-0.36) insignificant at both level, so we can say that urban and rural area students perceive almost same level of parental expectation..

Result 3 make it clear that the mean of urban male students (M=132.28) is greater than mean of rural students(M=129.77) and the yield t- value was not found (1.48) to be significant at any level of significance. Although urban male student have greater mean as compare to their counterparts but we cannot conclude that urban male students perceived more parental expectation from their parents.

Result 4 also indicates that The mean of urban female students (M=136.10) is slightly smaller than mean of rural female students (M=137.74) and yield t- value was (1.22) was not found to be significant at any level of confidence. it can be stated that the expectations of girls' parents of urban and rural inhabitants are almost same.

Result 5 reveals that the mean of urban female students (M=136.10) is larger than the mean of urban male students(M=132.28) and yield t- value was (2,50) found to be significant at 0.05 level of confidence. So we can say that urban female student perceive more parental expectation from their parents as compare to their counterparts.

Result 6 also indicates that The mean of rural female students (M=137.74) is greater than the mean of rural male students(M=129.77) and yield t- value (4.74 p< 0.01) was found to be significant at both level of confidence. So we can say that scenario is changing may be in according to these finding rural female students perceive more parental expectation from their parents as compare to rural male students..

Table 2: 2X2 way ANOVA of the groups in parental expectation with respect to gender and area

S. No.	Source of variation	Sum of squares	Df	Mean Square	F
1.	Among all groups	2974.24	3	983.41	10.13**
2.	Within groups	28705.6	296	96.98	30.39**
3.	Between Gender	2610.92	1	2610.92	26.92**

4.	Between Inhabitation	14.25	1	14.25	0.14
5.	Interaction	322.07	1	322.07	3.32*

** - significant at 0.01 level, * significant at 0.05 level

Table 2- result reveal that there is significant difference among all groups the F (10.13) was found to be significant at 0.01 level of confidence. Within groups also found significant difference (F- 30.39) at 0.01 level of confidence. These results also show significant difference between gender the found F- value (f- 26.92 p< 0.01) was significant beyond chance. We also observe interaction effect between variables the found F- value (F- 3.32 p< 0.05) was significant at 0.05 level of confidence.

DISCUSSION

The focus of present study was to assess the perceived parental expectation among high school male and female students in respect of their inhabitants. The finding of the present study are quite encouraging, finding are as, when we compare male and female students in respect of perceived parental expectation the t-value (5.18) was found to be significant at 0.01 level of confidence, urban male and urban female also differ significantly (2.50) at 0.05 level of confidence, rural male and rural female also differ significantly (4.74) at 0.01 level of confidence. We also find some insignificant finding (.36, 1.48, 1.22) for urban and rural students , urban male and rural male students as well as urban female and rural female students. These groups were not found significant at any level of confidence we also calculate two way analysis of variance with this data. ANOVA finding F-value (10.13, 30.39, 26.92) was found to be significant at 0.01 level of confidence. We also observe interactional effect between variables F-value was (3.32).

The findings of the present study is in expected and hypothesized direction.. The findings are supported by following studies. Wood, Kaplan & . McLoyd examined how youths' gender is related to the educational expectations of urban, low-income African American youth, their parents, and their teachers. As predicted, African American boys (ages 9–16) reported lower expectations for future educational attainment than did their female counterparts. Parents and teachers also reported lower expectations for African American boys (ages 6–16) than for girls. Males and females also differ in the extent to which their expectations were affected by those of their parents. Rosen and Aneshensel (1978) noted that, although both males' and females' educational expectations were influenced by perceived parental expectations. The effect of parental expectations were greater between mothers and daughters than between fathers and sons in one another study Flouri and Hawkes (2008), found that females are more sensitive to their parents expectations than males.

Some researchers have found males and females to be quite similar with respect to academic expectations (e.g., Ensminger and Slusarick 1992; Garg et.al.2002; Mello 2008; Rosen and Aneshensel 1978; Trusty 1998). In a sample of low-income African American students, Ensminger and Slusarick (1992) longitudinally examined males' and females' academic expectations and found that they were similarly associated with their mothers' academic expectations, and this similarity remained from first grade through high school. A study by Mello (2008) found that, although gender differences existed with respect to occupational expectations, males and females had similar academic expectations. Additionally, a longitudinal study on adolescents' expectations found no differences between males and females with respect to mean levels of academic expectations (Trusty 1998). So some finding support our finding some do not support. Therefore, more and more researches are needed in this direction.

CONCLUSION

parental expectation play a very important role in achievement of a child. It is clear that children should be motivated by their guardian to work hard in school; but they should not feel pressure from parts of their parents. Parents should not become overbearing. High parental expectation really can harm a child.

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A COMPARATIVE STUDY ON INTERNET UTILIZATION AMONG THE TEACHERS AND STUDENTS

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ABSTRACT
In recent decades, many inventions have been made by the human being. Internet is one of them miracles done by us. There was a time when knowledge had to be searched a lot. But now the all the information and knowledge is just one click away from us due to Internet. On the same note internet has proven itself the best tool for education. The purpose of this research paper is to comparative analysis of internet utilization among the teachers and students. A well structured questionnaire was distributed among the 20 teachers and 30 students for this study. The study demonstrates and elaborates the various aspects of Internet use, such as frequency of Internet use, methods used for learning of Internet skill, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities.

Keywords:Internet, Teachers, Students, Utilization, Comparison and Satisfaction.

INTRODUCTION
The Internet has become an essential part of today's education. All Institutes, colleges are using the Internet to learn about the things that can't be taught in a regular classroom. It provides classrooms with an enormous amount of resources from all over the world to students and the teachers. To make proper use of Internet in school, colleges and universities there is a need to understand the attitudes of students toward the use of it. (Rehman,K.U. et al.[4] (2006). Thus this paper is an attempt to focus on Internet for Education with comparing its utilization by the Teachers as well as Students.

RESEARCH PAPER OBJECTIVES
- To study the various purposes for which the Internet is used.

- To know the awareness of various Internet services used.

- To measure the influence of the Internet on academic efficiency.

- To analyze the satisfaction with the Internet facilities.

- To make comparative analysis between teacher & students on internet utilization.

DATA COLLECTION & SAMPLING
The aim of this study is to take an insight on utilization of internet by the teachers & students. The data is collected with primary and also secondary data collection methods. A well structured questionnaire was distributed among the 20 teachers and 30 students for this study. The Sanjay Ghodawat Institute, Atigre were selected by the investigator to collect data from the respondents. A total sample of 50 divided into 20 teachers and 30 students was taken up with the convenience sampling technique.

Statistical tool for Analysis: for the data analysis correlation tool is used. In the correlation coefficient *r* measures the strength and direction of a linear relationship between two variables (here we are going to consider the one variable is Teacher and another variable is the students). The value of *r* is always between +1 and –1.

Following values for correlation consider "*r* " is closest to:
- **Exactly –1.** A perfect downhill (negative) linear relationship

- **–0.70.** A strong downhill (negative) linear relationship

- **–0.50.** A moderate downhill (negative) relationship

- **–0.30.** A weak downhill (negative) linear relationship

- **0.** No linear relationship

- **+0.30.** A weak uphill (positive) linear relationship

- **+0.50.** A moderate uphill (positive) relationship

- **+0.70.** A strong uphill (positive) linear relationship

- **Exactly +1.** A perfect uphill (positive) linear relationship

DATA ANALYSIS & INTERPRETAION

Table - 1: Experience of Internet Use

Experience of Internet Use	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Less than 6 months	0	0	4	5	0.9527
6 months – 1 year	0	0			
1-2 years	0	0			
2-4 years	0	7			
More than 4 years	20	23			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, most of the teachers & students are using internet more than 4 years. 0.95 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table – 2: Frequency of Internet Use

Frequency of Internet Use	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Daily	20	27	5	6.25	0.9941
2-3 times a week	0	3			
2-3 times a month	0	0			
Once in a month	0	0			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, both the teachers & students are using internet daily. 0.99 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table – 3: Amount of Time Spent on the Internet

Amount of Time Spent on the Internet	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Less than 1 hour a week	0	0	3.33	4.16	0.8524
2-4 hours a week	0	4			
5-6 hours a week	4	6			
7-9 hours a week	7	9			
10-20 hours a week	8	7			
More than 20 hours a week	1	4			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, the teachers & students spent amount of time varies on internet. 0.85 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table – 4: Most Frequently Used Location of Internet Use (Multiple choice)

Most Frequently Used Location of Internet Use	Teachers Frequency	Students Frequency
College or work place	15	22
Home	9	16
Other places	3	8
Total	(total is more than 20)	(total is more than 30)

(Source: Questionnaire)

From the table it shows that, most frequently used location of Internet use is college or work place by the teachers & students.

Table – 5 : Methods of Learning Internet Skills

Methods of Learning Internet Skills	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Trial and error method	12	10	4	5	0.7635
Guidance from colleagues and friends	2	6			
Training from college	0	0			
Self instruction	6	14			
External courses	0	0			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, a method of learning internet skills varies by the teachers & students. 0.76 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table – 6: Purposes for Browsing Internet (Multiple choice)

Purposes for Browsing Internet	Teachers Frequency	Students Frequency
Research	10	4
Entertainment	8	27
Teaching & Learning	20	19
Communication	20	24
Total	(total is more than 20)	(total is more than 30)

(Source: Questionnaire)

According to Bansode et. al[1](2008), Thanushkodi et. al[5] (2011), found that students use internet mainly for communication purposes, and from the table it shows that, the teachers are using internet for the purpose of teaching learning, communication and then research.

Table -7: Awareness and Use of Internet Services (Multiple choice)

Use of Internet Services	Teachers Frequency	Students Frequency
Electronic Mail	20	30
World Wide Web	20	27
Search Engine	20	25
Telnet	2	0
File Transfer Protocols	2	8
Archie	0	0
List Serves/Discussion Groups	8	10
Bulletin Board Services	0	5
Frequently Asked Questions	13	19
Chatting	20	30
Total	(total is more than 20)	(total is more than 30)

(Source: Questionnaire)

From the table it shows that, the teachers & students both are very well aware about the E-mail, www, search engine, FAQ and chatting services provided on internet.

Table -8: Problems While Using Internet

Problems While Using Internet	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Slow Internet access speed	2	6	4	5	0.5588
It takes too long to view/ download Web pages	3	2			
Difficulty in finding relevant information	6	10			
Overload of information	8	7			

on the Internet					
Privacy problem	1	5			
Total	20	30			

(Source: Questionnaire)

According to Raval, B.N et.al[3] (2014), Overload of information on the Internet is the main problem faced by the faculty members from the table it shows the same result. the students faced the problem of difficulty in finding relevant information. 0.55 is the value of correlation so its shows A moderate uphill (positive) relationship.

Table -9: Ways to Browse Information from the Internet

Ways to Browse Information from the Internet	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Type the Web address directly	6	8	6.66	8.33	0.9972
Use of search engines	14	22			
Use of subscription databases	0	0			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, most of the teachers & students are browse information through using search engines. 0.99 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table -10: Comparison of Conventional Documents and Internet (multiple choice)

Comparison of Conventional Documents and Internet	Teachers Frequency	Students Frequency
Time saving	18	22
More informative	16	19
More useful	12	24
Less expensive	8	12
More preferred	9	17
Total	Total is more than 20	Total is more than 30

(Source: Questionnaire)

From the table it shows that, the opinion of teachers & students on comparison of conventional documents over Internet varies.

Table -11: Influence on Academic Efficiency

Influence on Academic Efficiency	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Use of conventional documents decreased	3	8	5	7.5	-0.1825
Dependency on Internet increased	6	11			
Expedite the research process	6	2			
Improved professional competence	5	9			
Total	20	30			

(Source: Questionnaire)

According to Mostofa, M[2] (2011), equal proportion of respondents felt that dependency on internet increased & expedite the research process. And from the table it shows the same result with respect to teachers' frequency. -0.18 is the value for r so, there are a weak downhill (negative) linear relationship.

Table -12: Satisfaction with Internet Facilities

Satisfaction with Internet Facilities	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Fully	17	25	5	6.25	0.9925
Partially	2	5			
Least satisfied	0	0			

No comments	1	0			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, the most of the teachers & students satisfied with internet facility. 0.99 is the value of correlation so its shows there are A strong uphill (positive) linear relationship.

Table -13: Can Internet Replace Library Services?

Can Internet Replace Library Services	Teachers Frequency	Students Frequency	Teachers Average	Students Average	correlation
Yes	12	21	10	12.5	1
No	8	9			
Total	20	30			

(Source: Questionnaire)

From the table it shows that, most of the teachers & students felt that internet will replace library services. R value 1 shows that there is a perfect uphill (positive) linear relationship.

CONCLUSION

Internet is important to education because it provides instant availability of vast information in real time**.** Prior to the availability of the Internet, one seeking an education often had to be physically near the information he/she wished to learn. This involved walking to a school, listening to a teacher and having access to a library. With the Internet, learners have instant access to information on virtually any subject. This study helps the colleges, institutes to know the utilization of internet facilities by teachers & students.

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AN ANALYSIS OF PROFITABILITY PERFORMANCE OF RELIANCE INDUSTRIES LIMITED: A CASE STUDY

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ABSTRACT

Keynes said that "profit is the engine that drives the business enterprise". The management is concerned not only in reasonable return to its owners but also intends to secure maximum utilization of assets (operational efficiency) after meeting its short term as well as long term obligations. The process of identifying the financial profit or loss of the enterprise by properly establishing relationship between the items of the profit and loss account and the balance sheet is called profitability analysis.

Reliance Industries Limited is the top most company in India in terms of market capitalization, net profit, total assets and investment, second largest company in terms of net sales and earnings per share, listed in Fortune 500 listing of global corporations. Present study covers the profitability performance of Reliance Industries Limited for ten consecutive financial years starting from 1st April 04 and ends on 31st March 2014. To evaluate the profitability performance and to find out statistical relationship between various variables of the company, relevant accounting ratios have been calculated and statistical tools like mean, standard deviation, coefficient of variation , Karl Pearson's correlation and 't' test have been applied.

The results of the study show a positive relationship between company's performance (sales and investment) and various indicators of profitability like operating profit, net profit and PBIT etc. The company's market is growing, its revenue, investment, exports, profits are increasing. Finally, though Reliance Industries is a profitable one and has good future opportunities, it has to look carefully at controlling the cost of goods sold and reduce its expenses to achieve higher margins and to support its ambitious growth plans.

Keywords: Profitability Performance, Operating Profit Margin, Net Profit Margin, Earning Per share, Return on Total Assets, Return on Net worth.

INTRODUCTION

Keynes said that "profit is the engine that drives the business enterprise". The management is concerned not only in reasonable return to its owners but also intends to secure maximum utilization of assets (operational efficiency) after meeting its short term as well as long term obligations. The word profitability signifies the ability of a concern to earn profits on its investment. The process of identifying the financial profit or loss of the enterprise by properly establishing relationship between the items of the profit and loss account and the balance sheet is called profitability analysis. The profitability of a firm can be measured by its profitability ratios which can be determined on the basis of either sales or investment. In other words, the profitability ratios are designed to provide answers to questions such as (a) is the profit earned by the firm adequate? (b) What is the earning per share? (c) Whether its return on investment or capital employed is adequate or not? And so on.

LITERATURE REVIEW

In recent literature regarding performance of concerns Net Operating Profitability (Dong et al., 2010), (Raheman et al., 2010), Return on Invested Capital, and Return on Assets (Narware, 2010), Return on total Assets (Deloof, 2003) are used as the main independent indicators of profitability.

Almazari A. (2009) proved that there exists statistical relationship between profitability ratios like gross profit, net profit, operating profit, return on equity and performance of the company.

Perttunen & Martikainen (1990), expressed that liquidity, profitability, efficiency and leverage are the categories in which listing of ratios can be done to be aware of in analyzing an enterprises' income statement and balance sheet.

Mcdonald suggested that lagged profitability is a significant determinant of current profit margin. He found that industry concentration is positively related to a firm's profit margin.

Kambhampati and Parikh revealed that trade reforms are often expected to decrease profit margins but increased competition and trade exposure may improve efficiency of the firm and provide a positive impetus to firm's profitability.

Fieldsent, Longford & Mccleay (1987) suggested that financial ratios can give mixed signals about a company's financial health so other factor should also be considered before taking any decision.

Bernstein (1983) highlights that to measure overall financial performance of an enterprise besides profit and sales several other criteria's can also be used.

Ahmed ad Khababa analyzed financial performance of commercial banks in Saudi Arabia using Return on Assets, Return on Equity and Earning per Share as profitability measures. They found that business risk and bank size were the main variables to put impact on a bank's profitability.

In this background, the present study is an attempt to contribute to the existing literature by examining the profitability performance of Reliance Industries from April 2004 to March 2014.

CORPORATE OVERVIEW

Reliance Industries Limited is an Indian conglomerate headquartered in Mumbai. The major segments in which it operates are: refining and marketing, petrochemicals, exploration and production, retail and telecommunication. This corporation is listed in Fortune 500 listing of global corporations. Despite global and domestic challenges the company continued its growth path. It is the top most company in India in terms of market capitalization, net profit, total assets and investment, second largest company in terms of net sales and earnings per share. Reliance is the only Asian company in the oil and gas sector to be rated two notches above the sovereign by S & P. This company is India's largest exporter which accounts for 14.7% of the country's exports. Reliance has been nationally and globally felicitated like 'International Refiner of the Year', 'Most Trusted Brand', 'Responsible Care company',' National Golden Peacock', 'Sustainable Value Creator' award etc. for creating sustained long term shareholders value .

OBJECTIVES OF THE STUDY

The main objectives of this empirical study are stated below:

1. To analyze the time series behaviour of the profitability ratios of Reliance Industries Ltd.

2. To correlate net sales and return on investment/capital employed with profitability ratios of the selected company.

3. To study the effect of different profitability ratios on the performance of the company.

RESEARCH METHODOLOGY

In view of the objectives of the study listed above an exploratory design has been adopted. The main source of data used for the study is secondary data derived from the published annual reports of the selected company collected from official website and other links (10 years financial statements available at www.moneycontrol.com). The information related with theoretical background and refinery industry has been collected from websites, journals, magazines, newspapers, books and from Government of India publications.

Present study covers the profitability performance of selected company for ten consecutive financial years. The period of the study starts from 1st April 04 and ends on 31st March 2014. The rationale behind selecting this period is the availability of data. Moreover these are normal years as well as latest financial period for this study.

HYPOTHESIS OF THE STUDY

1. There is no significant relationship between the operating profit and net sales of the selected company.

2. There is no significant relationship between net profit margin and net sales of the selected company.

3. There is no significant relationship between Earning per Share Behaviour and number of shares outstanding of the selected company.

4. There is no significant relationship between net profit margin before interest and total assets of the company.

5. There is no significant relationship between net profit margin and return on net worth of the selected company.

6. There is no significant relationship between PBIT and return on capital employed of the selected company.

TOOLS AND TECHNIQUES OF ANALYSIS

The so collected data have been suitably re-arranged, classified and tabulated as per the requirement of the study and the following techniques have been applied:

A. Accounting Ratios

Accounting ratios like operating profit margin, net profit margin, earning per share, return on equity, and return on total assets for ten financial years have been calculated. Comparison of current to past performance using ratios enables analyst to assess a firm's progress.

B. Statistical Tools
a) In order to facilitate study Arithmetic Mean, Standard Deviation, and Coefficient of Variation have been calculated.

b) Karl Pearson's simple Correlation and 't' test have been used to examine the influence of profitability on performance of the company.

Limitations of the Study
a) Present study is based on secondary data and the same does not indicate the current situation of the company.

b) The economic condition varies at different point of time and that will affect the findings of the present study.

c) The study is limited to ten years only.

Table – 1: Operational Definition of the Selected Financial Ratios Used in the Study

S. No.	Ratio	Formula	Explanation
1	Operating Profit Ratio	(Operating Profit ÷ Net Sales)× 100	It measures the percentage of pure profit earned on every one rupee of sales made. Operating profit means profit generated by the operations of the firm and hence is calculated before considering any financial charge, non operating income/loss and tax liability etc.
2	Net Profit Ratio	(Earning after tax ÷ Net Sales)× 100	This ratio shows the net contribution made by every 1 rupee of ales to the owner funds. It expresses the cost price effectiveness of the operations. It is a symbol of overall profitability and efficiency of the business.
3	Earning Per share	PAT – P S Dividend ÷ No. of Equity shares	This ratio determines the earnings available to each equity share. Higher the figure better is the performance and prospects of the company.
4	Return on Total Assets	(Earning after Tax + interest ÷ Total Assets)× 100	This ratio measures a relationship between net profit after tax but before interest and total assets. It is calculated to find out how efficiently the total assets have been used by the management.
5	Return on net Worth	(Earning after Tax ÷ Net Worth)× 100	This ratio reveals how profitably the owner's funds have been utilized by the concern. The term net worth includes equity and preference share capital and all reserves and surplus less accumulated losses.
6	Return on Capital Employed	(EBIT ÷ Capital Employed)× 100	It measured the relationship between net profit before interest and tax and total long term sources of funds or fixed assets plus net working capital. It exhibits how well management has used the funds supplied by the creditors and the owners thus, measures productivity as well as profitability.

Significance of Observed Correlation $t = \frac{r}{\sqrt{1-r^2}} \sqrt{n-2}$

Degree of Freedom = n-2, 10-2= 8

DATA ANALYSIS AND INTERPRETATION

Table -2: Operating Profit Margin

Years	Operating Profit (Rs. in Cr.)	Net Sales (Rs. in Cr.)	Operating Profit Ratio (%)
2004-05	12710.16	65918.83	19.28
2005-06	14458.74	80877.79	17.88
2006-07	20405.91	111699.03	18.27
2007-08	22432.52	133805.78	16.76
2008-09	24152.39	141959	17.01
2009-10	29969.07	192091.87	15.60
2010-11	37832.71	248136.06	15.25
2011-12	33831	329932	10.25
2012-13	30787	360297	8.54

2013-14	30877	390117	7.91
Mean	25745.65	205483.44	14.675
SD	7876.55	113364.99	3.98
CV	30.59	55.17	27.12
Min	12710.16	65918.83	7.91
Max	37832.71	390117	19.28

Source: Author's compilation

The amount of sales of the company has increased from Rs.65918 crores in 2004-05 to Rs. 390117 crores. Though net sales and operating profit have increased by more than 5 and 2.43 times respectively but operating profit ratio has declined through out the period except in 2008-09. Increase in the cost of raw material is the main reason for decline in OP margin. While cost of raw material contributed 71.9% of sales in 2004-05 it raised to 85.7% in 2013-14.

HYPOTHESIS 1
There is no significant relationship between the operating profit and net sales of Reliance Industries Limited during different financial years.

Table - 3: Correlation between Operating Profit and Net Sales

		Operating Profit	Sales
Operating Profit	Pearson's Correlation	1	0.81286427
	N	10	10
Sales	Pearson's Correlation	0.81286427	1
	N	10	10

Significance of Correlation at 0.05 Level

Calculated Value of 't'=3.948

Table Value of 't' = 2.31

Table 3 depicts that there exist high degree positive correlation between operating profit and net sales of Reliance Industries with r = .813. Calculated value of t is higher than table value, hence, null hypothesis is rejected or we can conclude that there exists significant relationship between the operating profit and net sales of Reliance Industries Limited during different financial years.

Table - 4: Net Profit Margin

Years	Earnings after Tax (Rs. in Cr.)	Net Sales (Rs. in Cr.)	Ratio (%)
2004-05	7571.68	65918.83	11.49
2005-06	9069.34	80877.79	11.21
2006-07	11943.4	111699.03	10.69
2007-08	19458.29	133805.78	14.54
2008-09	15309.32	141959	10.78
2009-10	16235.67	192091.87	8.45
2010-11	20286.3	248136.06	8.18
2011-12	20040	329932	6.07
2012-13	21003	360297	5.83
2013-14	21984	390117	5.64
Mean	16290.1	205483.44	9.29
SD	4926.56	113364.99	2.79
CV	30.24	55.17	30.03
Min	7571.68	65918.83	5.64
Max	21984	390117	14.54

Source: Author's compilation

From the above table it is understood that EAT and net sales have increased by amount throughout the period but net profit margin has decreased from 11.49% in 2004-05 to 5.64% in 2013-14. This decline may partly because of decrease in operating ratio and partly because of increase in interest burden and increased depreciation charges. Average net profit margin is 9.29% for this period.

HYPOTHESIS 2

There is no significant relationship between net profit margin and net sales of Reliance Industries Limited during different financial years.

Table - 5 : Correlation between Net Profit and Net Sales

		Net Profit	Sales
Net Profit	Pearson's Correlation	1	0.855534
	N	10	10
Sales	Pearson's Correlation	0.855534	1
	N	10	10

Significance of Correlation at 0.05 Level

Calculated Value of 't'= 4.66

Table Value of 't' = 2.31

There exist high degree positive correlation between net profit and net sales of Reliance Industries with r = .855. Calculated value of t is higher than table value, hence, null hypothesis is rejected or we can conclude that there exists significant relationship between net profit margin and net sales of Reliance Industries Limited during different financial years.

Table - 6: Earning per Share

Years	Earnings after Tax (Rs. in Cr.)	No. of Shares (Lakhs)	Earning Per Share
2004-05	7571.68	13935.08	54.34
2005-06	9069.34	13935.08	65.08
2006-07	11943.4	13935.08	85.71
2007-08	19458.29	14536.49	133.86
2008-09	15309.32	15737.98	97.28
2009-10	16235.67	32703.74	49.64
2010-11	20286.3	32733.74	61.97
2011-12	20040	32710.59	61.26
2012-13	21003	32286.63	65.05
2013-14	21984	32319.02	68.02
Mean	16290.1	23483.343	74.22
SD	4926.556923	9082.06754	23.97
CV	30.24	38.67	32.3
Min	7571.68	13935.08	49.64
Max	21984	32733.74	133.86

Source: Author's compilation

Earning per share is an important indicator of corporate performance for the investing public. From the above table it is clear that company's earnings have increasing trend except in 2008-09 and 1011-12. If we do time series analysis of earning per share we can conclude that it has fluctuating trend with coefficient of variation 32.3%. Year 2007-08 was best for investors as its earning per share was the highest in all years. In last decade earning per share was lowest in 2009-10 with earning of Rs. 49.64 per share.

HYPOTHESIS 3

There is no significant relationship between Earning per Share Behaviour and number of shares outstanding of Reliance Industries Limited during different financial years.

Table - 7: Correlation between Earning per Share Behaviour and Number of Shares outstanding

		Net Profit	No. of Shares
Net Profit	Pearson's Correlation	1	0.750526
	N	10	10
No. of shares	Pearson's Correlation	0.750526	1
	N	10	10

Significance of Correlation at 0.05 Levels

Calculated Value of 't'= 3.211

Table Value of 't' = 2.31

Table 7 depicts Pearson's correlation between net profit and number of shares outstanding. It reveals high degree positive correlation. The calculated value (3.211) is higher than the table value (2.31). Hence our hypothesis is rejected and we can conclude that there exists significant relationship between Earning per Share Behaviour and number of shares outstanding of Reliance Industries Limited during different financial years.

Table - 8: Return on Total Assets

Years	Earnings after Tax + Interest (Rs. in Cr.	Total Assets (Rs. in Cr.)	Return on Total Assets (%)
2004-05	9058.22	56458.03	16.04
2005-06	9962.95	67019.68	14.87
2006-07	13242.3	89140.89	14.86
2007-08	20621.19	117057.02	17.62
2008-09	17083.79	188492.7	9.06
2009-10	18235.62	190861.03	9.55
2010-11	22614.6	213470	10.59
2011-12	22708	221596	10.25
2012-13	24039	234543	10.25
2013-14	25190	282572	8.92
Mean	18275.57	166121.035	12.20
SD	5530.07	74063.90554	3.10
CV	30.26	44.58	25.4
Min	9058.22	56458.03	8.92
Max	25190	282572	`17.62

Source: Author's compilation

Above table reveals that earning after tax plus interest and total assets both have increasing trend in almost all the years under study. ROTA is the maximum in 2007-08 but it decreases to nearly half in next year .In remaining years it has fluctuating trend. It we analyze financial statements it comes out that form march 08 to March 10 investments in capital assets increased by nearly 80%, which is financed by unsecured loans.

HYPOTHESIS 4
There is no significant relationship between Earning after tax and Total Assets of Reliance Industries Limited during different financial years.

Table - 9: Correlation between Earning after tax plus Interest and Total Assets

		Earning after tax	Total Assets
Earning after tax	Pearson's Correlation	1	0.910739396
	N	10	10
Total Assets	Pearson's Correlation	0.910739396	1
	N	10	10

Significance of Correlation at 0.05 Levels

Calculated Value of 't'= 6.24

Table Value of 't' = 2.31

It is observed from the Pearson's correlation analysis that there is a high degree positive relationship between Earning after tax plus interest and Total Assets with r =.91. As tabulated value of 't' is less than the calculated value, significance of correlation using 't' test analysis for testing the fourth hypothesis also proves it.

Table - 10: Return on Net worth

Years	Earnings after Tax (Rs. in Cr.)	Net worth (Rs. in Cr.)	Return on Net worth (%)
2004-05	7571.68	37673.44	20.1
2005-06	9069.34	45154.07	20.09
2006-07	11943.4	61315.16	19.48
2007-08	19458.29	80577.34	24.15
2008-09	15309.32	114588.22	13.36
2009-10	16235.67	128366.34	12.65
2010-11	20286.3	146073.32	13.89
2011-12	20040	162969	12.3

2012-13	21003	180020	11.67
2013-14	21984	197091	11.15
Mean	16290.1	115382.789	15.884
SD	4926.556923	54162.0758	4.37
CV	30.24	46.94	27.51
Min	7571.68	37673.44	11.15
Max	21984	197091	24.15

Source: Author's compilation

Reliance industry's return on net worth, which measures the return earned on the common stockholder's investment in the firm is showing fluctuating trend. The company has not issued preference shares. The highest return with 24.15% was earned in financial year 2007-08. Table depicts that from 2004-05 to 2013-14 net worth is increased by more than 5 times but earnings are not in that proportion (only 2.9 times increase). The mean value of RONW is 15.884% and coefficient of variation is 27.51%.

HYPOTHESIS 5
There is no significant relationship between Net Profit Behaviour and Return on net worth of Reliance Industries Limited during different financial years.

Table - 11: Correlation between Net Profit Margin and Return on net Worth

		Net Profit	Net Worth
Net Profit	Pearson's Correlation	1	0.892088
	N	10	10
Net Worth	Pearson's Correlation	0.892088	1
	N	10	10

Significance of Correlation at 0.05 Levels

Calculated Value of 't'= 5.58

Table Value of 't' = 2.31

The Pearson's correlation is used to test the hypothesis and a significant relationship is found between net profit and net worth with r = .892 which is high and positive. T test result shows that calculated value is more then the table value therefore we can say that there is significant relationship between net profit behaviour and return on net worth of Reliance Industries Limited during different financial years.

Table - 12: Return on Capital employed

Years	PBIT (Rs. in Cr.)	Capital Employed (Rs. in Cr.)	Return on Capital employed (%)
2004-05	10563.22	56458.03	18.71
2005-06	11605.67	67019.68	17.32
2006-07	15827.65	89140.89	17.76
2007-08	24181.04	117057.02	20.66
2008-09	20221.13	188492.7	10.73
2009-10	22560.59	190861.03	11.82
2010-11	27583.74	213470	12.92
2011-12	28418	221596	12.82
2012-13	29320	234543	12.5
2013-14	31024	282572	10.98
Mean	22130.504	166121.035	14.62
SD	7017.043907	74063.90554	3.42
CV	31.7	44.58	23.39
Min	10563.22	56458.03	10.73
Max	31024	282572	20.66

Source: Author's compilation

Table 12 provides the result of return on capital employed. It shows that ROCE is high in 2007-08 (20.66%). In 2008-09 it decreased to almost half of the previous year. After 2010-11 ROCE is showing decreasing trend. Though PBIT is showing increasing trend but the rate of increase is not good enough to maintain the return on capital employed.

HYPOTHESIS 6

There is no significant relationship between PBIT Behaviour and Capital employed of Reliance Industries Limited during different financial years.

Table - 13: Correlation between PBIT Behaviour and Capital employed

		PBIT	Capital Employed
PBIT	Pearson's Correlation N	1 10	0.923327 10
Capital Employed	Pearson's Correlation N	0.923327 10	1 10

Significance of Correlation at 0.05 Levels

Calculated Value of 't'= 6.78

Table Value of 't' = 2.31

It can be observed from correlation analysis that there exists high degree positive correlation between PBIT and capital employed of the company under study. T test results also confirm it as calculated value of t is high than its table value. So again our hypothesis is rejected and it can be said that there is a significant relationship between PBIT Behaviour and Capital employed of Reliance Industries Limited.

CONCLUSIONS

Despite global and domestic challenges Reliance Industries Limited continued its growth path. It is the top most company in India in terms of market capitalization, net profit, total assets and investment, second largest company in terms of net sales and earnings per share. The results of the study show a positive relationship between company's performance (sales and investment) and various indicators of profitability like operating profit, net profit and PBIT etc.

Though company achieved record revenue in last some years but operating profit ratio decreased during this period which means that the operating performance of the company is not good. By lowering all operating expenses (mainly the raw material cost) a significant impact on the profitability can be made.

Earnings after taxes, which are available for common stockholders, are also low as compared to the sales volume of the company. This is partly due to the effect of high expenses on the cost of goods sold and partly because of increase in interest burden and increased depreciation charges. Therefore, the company should use consistent techniques and financial policies to reduce its expenses and to earn more returns on earning after taxes.

Earning per share is an important indicator of corporate performance for the investing public. From the above study it is clear that company's earnings have increasing trend except in 2008-09 and 1011-12 but earning per share has fluctuating trend with coefficient of variation 32.3%. Finally, though Reliance Industries is a profitable one and has good future opportunities, it has to look carefully at controlling the cost of goods sold and reduce its expenses to achieve higher margins and to support its ambitious growth plans.

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ASSET QUALITY OWES OF PUBLIC SECTOR BANKS IN INDIA

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ABSTRACT

A significant rise in NPA of the banking system especially of the public sector banks is a matter of concern in the Indian economy. The RBI, central government and commercial banks are trying to address the situation. The global slowdown and uncertain market conditions are generally blamed for the grim banking situation. The trend in stressed assets reveals that NPAs are spread out across the economy including priority sector. Major stressed sectors are infrastructure, iron and steel, textiles, aviation and mining.

Keywords: Assets, Crisis, Banks, Slippage, NPA, Recovery.

1. INTRODUCTION

Banking sector plays a vital role in the process of financial intermediation in the Indian economy. They are the main channels of monetary policy transmission, credit delivery and payment system. In fact the solvency and sound health of the banking system is an important determinant of the overall rate of economic gr owth and financial stability.

Financial health of the banks in turn depends upon an important prudential indicator viz., Non –Performing Assets (NPAs). Besides assets quality, NPAs also reflects the efficiency of the credit risk management policy of the banks and also indicates efficacy the allocation of scarce financial resources.

There is a near unanimity in the literature that asset quality is a critical determinant of sound functioning of the banking system. NPAs affect the operational efficiency, which in turn affects profitability, liquidity and solvency position of banks (Michael, et al, 2006). The consequences of NPAs would be reduction in interest income, high level of provisioning, stress on profitability ,and increased pressure on net interest margin (NIM) thereby reducing competitiveness, steady erosion of capital resources and increased difficulty in augmenting capital resources (Batra, 2003).

Asset quality problems are contagious and insidious and they may affect weak banks more seriously. This is because loan losses may gradually erode earning, capital and liquidity of banks. Moreover it is very difficult to identify that there is problem of deterioration in asset quality in early stages. Further vulnerable weak banks with a small capital base may find it difficult to absorb the unexpected loan losses.

NPAs generate a vicious cycle of effects on the sustainability and growth of the banking system, and if not managed properly could lead to bank failures. Empirical evidence indicates a relationship between bank failures and higher NPAs worldwide (Chijoriga, 2000 and Dash, et al, 2010).The links between financial crises and bank funding may be strongest during banking crises. Such crises tend to arise primarily from deteriorating economic fundamentals, notably declines in asset quality (Borio and Lowe, 2002). The issue is of particular importance after the recent global financial crisis and the failure of some large institutions and bailouts that followed. In the Indian context also empirical research suggests that asset quality is one of the main determining factors of credit, besides deposits and lending interest rate (RBI, RCF, 2006-08).

Indian banking sector has witnessed significant changes over last two decades in terms of credit pricing and credit products. With more freedom for business operations and increase in the number of private and foreign banks the Indian credit market has become highly competitive. The rap id credit expansion particularly during last decade was encouraged by better asset quality which in fact is an indicator of the financial deepening of process.

 In the period immediately following the global financial crisis, when asset quality of banks in most advanced and emerging economies was impaired, the asset quality of Indian banks was largely maintained (RBI AR 2011- 2012). Nevertheless in the recent years, particularly since 2012 concerns regarding impairment in asset quality of Indian banks have come to the fore. A significant rise in NPAs of the banking system, especially Public Sector Banks (PSBs) is a matter of serious concern both for the Reserve Bank of India and the Government. The general refrain of the PSBs is that they operate under constraints, are vulnerable to political pressures and are not on equal footing with their private sector counterparts. Against this backdrop this paper attempts to undertake an analysis of asset quality of Public Sector Banks during 2001-2013.

1.1. OBJECTIVES OF THE STUDY

The study is based on the following objectives:

- To compare the trend in the asset quality of PSBs in the pre-crisis and post crisis period.

- To gauge the extent of slippages in asset quality of PSBs.

- To identify the best PSB in terms of asset quality.

1.2. DATA USED AND METHODOLOGY

The paper is based on secondary data collected from the Publications of the RBI through its website. Data has been collected for 26 public sector banks, which include 6 banks of State Bank of India group and 19 Nationalized banks. Apart from percentage analysis, ratios such as Gross NPAs ratio, Net NPAs ratio, Slippage ratio, Impaired Asset Ratio, and Profit to Gross NPA Ratio (PGN) are used

2. ASSET QUALITY OF PSBS

In this section the researchers have analyzed the trend in the asset quality of PSBs under the following headings;

- Trends in NPA

- Trends in slippages

2.1. TRENDS IN NPA

The introduction of prudential norms resulted in a significant rise in the NPA levels of banks during the early 1990s. Gross NPAs as a percentage of gross advances stood at 19.1 per cent as on March 1994.There after the ratio progressively declined during the period when the structural reforms were implemented and also through the "boom" years leading up to the global financial crisis. The reduction of NPA levels could be attributed to several factors, including

- Introduction of prudential norms for asset quality and other regulatory initiatives in the 1990swhich encouraged improved risk management in banks contributing to improvement in asset quality.

- As interest rates were falling, banks garnered substantial treasury profits which were utilized for writing off NPA accounts.

- Overall good performance of the economy and concomitant rise in credit growth;

- Abundant liquidity conditions;

- Increased restructuring, etc..(K.C.Chakrabarthy 2013)

The PSBs dominated the banking business in the country. In 1990-91, they accounted for as much as 91 per cent of the total assets, Indians Private Sector Banks with 3 per cent and Foreign Banks with 6 Per cent. After entry of a number of new Private Indian Banks in the mid 1990 s , the Indian Banking Industry was continued to be dominated by the PSBs. At the end 2000-2001, PSBs accounted for a little under 80 per cent of total assets with Indian Private Sector Banks with over 12 per cent and Foreign Bank with 8 per cent.(Chaudhuri, Saumitra 2002) . whereas at end March 2013, the PSBs accounted for about 72.7 per cent of the total assets in the Indian Banking Industry with 20.8 per cent with Private Banks and 6.5 per cent with Foreign Banks.(RBI report on current Trends and Progress of Banking 2012-13).

The classification of advances as per the newly introduced "prudential norms" enabled a proper assessment of the extent level of NPAs in the Indian banking system for the first time. Asset quality in the banking system has deteriorated in the post-crisis years and among banks groups, PSBs had the highest level of stress in terms of NPAs.

Table 1 presents the trends in the gross NPAs of PSBs. An analysis of the trend points out that Gross NPAs of PSBs have grown by 3 times during the period of study. The average volume of GNPAs of PSBs is Rs. 647.99 billion.

On March 31, 2002 the total of Gross NPAs in PSBs was Rs.564.73 billion i.e.11.1 per cent of gross advances and 4.9 per cent of total assets. Thereafter the gross NPAs had shown a decreasing trend and reached to level of Rs.389.68 billion at the end of March 2007. But the trend reversed after 2008 when NPAs rose significantly. NPAs increased most in between the years 2009-2012, as the gross NPAs increased from Rs.449.57 billion in 2009 to Rs.1124.89 billion in 2011-2012 and further to Rs.1644.62 billion in 2012-2013.

Accretion to NPAs is a critical indicator of efficiency in credit risk management. Banks need to bring down fresh additions to NPAs to improve the quality of their asset portfolio. There is a sizable increase in the volume of incremental Gross NPAs of PSBs i.e. from Rs.18.01 billion in 2002 to Rs.519.73 billion in 2013, a rise of 29 times. In consonance with the trends in gross NPAs, the accretions to NPAs was considerably curtailed during the period 2003-2007, but increased significantly thereafter. The incremental NPAs remained negative in most of the years prior to the year 2008. A sharp decline in incremental NPAs reflected significant improvement in credit appraisal, improved risk management and better resource allocation process (RBI, RCF, 2007)

Table 1 also indicates the trends in the proportion of GNPAs in gross advances and the proportion of GNPAs in the total assets of the PSBs. GNPAs as percentage of gross advances of PSBs dropped to 2.6 per cent in 2013 from 12.4 per cent in 2001.Year wise figures are declining in all years of the study period except in 2010, 2011 and 2012.Similar trends are witnessed in case of GNPAs as a percentage of total assets except in 2013 in which the share has registered an increase.

A closer scrutiny of the trends in the asset quality of PSBs reveals that there is a sharp decline in the growth of gross NPAs till 2007.As a result of various reform measures, there was significant improvement in the asset quality of PSBs partly as a result of expansion of loan volume and party on account of write-offs and recovery of past dues.

Table – 1: Gross NPAs of PSBs

Year	Gross NPAs (Amount Rs. In billion)	Incremental Gross NPAs	Growth Rate (in per cent)	Gross NPAs as percentage of Gross Advances	Gross NPAs as percentage of Total Assets
2001	546.72	-	-	12.4	5.3
2002	564.73	18.011	3.29	11.1	4.9
2003	540.90	-23.83	-4.21	9.4	4.2
2004	515.37	-25.53	-4.71	7.8	3.5
2005	483.99	-31.38	-6.08	5.5	2.7
2006	413.58	-70.41	-14.54	3.6	2.1
2007	389.68	-23.9	-5.77	2.7	1.6
2008	404.52	14.84	3.80	2.2	1.3
2009	449.57	45.05	11.13	2.0	1.2
2010	599.26	149.69	33.29	2.2	1.3
2011	746.00	146.74	24.48	2.4	1.4
2012	1124.89	378.89	50.78	3.2	1.9
2013	1644.62	519.73	46.20	2.6	2.4
Average	647.99	84.45	10.589	5.16	2.6

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Another reason for sudden rise in gross NPAs of PSBs was reported to be on account of a shift to a system based recognition of NPAs from a manual one Prior to this the computation for most banks was worked out manually at branch level and was therefore subject to discretion of managers.

During 2008 -2013 GNPAs of PSBs had shown an upward movement. The rising NPA scan be attributed to the effects of the global recession coupled with internal factors like the slowdown in the domestic economy which had adversely affected the performance of corporate as well as small and medium enterprise leading to a negative impact on credit quality. The asset quality of PSBs aggravated in comparison to private sector banks as big ticket corporate loans form a larger share of the credit portfolio for PSBs Table (2)shows that thirty companies together owed Rs.16,877 crore as on September 30,2013 to PSBs.

The RBI in its Financial Stability Report , December 2013 has indentified five sectors – Infrastructure, Iron and Steel, Textiles , Aviation, and Mining – as a stressed sectors. PSBs have high exposures to the industry sector in general and to such stressed sectors in particular as given in Table (3). Increase in NPAs of banks is mainly accounted for by switchover to system based identification of NPAs by PSBs. Slowdown of economic growth, and aggressive lending by banks in the past, especially during good times.

Table - 2: Details of Top 30 Suit Filed Accounts of PSBs as on September 2013(Rs. In Crore)

S. No	Name of the Company	Outstanding as on 30.09.2013
1.	Kingfisher Airlines Ltd	3782.16
2.	Zoom Developers (p) Ltd	2267.61
3.	Surya Pharmaceutical Ltd	900.99
4.	Pixon Media Pvt Ltd	570.34
5.	Stol Ltd	535.58
6.	Century Communication Ltd	525.48
7.	Nafed	518.56
8.	XL Energy Ltd	510.23
9.	Biotor Industries Ltd	479.97
10.	Deccan Chronicle Holdings Ltd	476.55
11.	Kemrock Industries &Expo	445.05
12.	Varun Industries Ltd	427.91
13.	MaheshwaryIspat Ltd	373.65
14.	JB Diamnonds Ltd	366.58
15.	TeleData Informatics Ltd	356.93
16.	Electrotherm(India) Limited	352.88
17.	MBS Jewellers (p) Ltd	331.76
18.	RajtPharmaChem Ltd	327.50
19.	Vishal Exports Overseas Ltd	300.83
20.	Sri lalitha cement Industries Ltd	290.26
21.	Surya Vinayak Industries Ltd	284.42
22.	Mahua Media (p) Ltd	281.23
23.	Prime Impex Limited	278.54
24.	RR Info Park Pvt Ltd	269.31
25.	Euro Ceramics Ltd	266.05
26.	Ankur Drugs and Pharma Ltd	265.68
27.	Kerala State Cashew Dev.Corp.Ltd	264.19
28.	Ramswarup industries Ltd	247.03
29.	Ind Synergy Ltd	238.55
	Grand Total of Top 30 Suit Filed Accountas	**16877.26**

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Table - 3: Major Contributor to Stressed Advances of PSBs

Sector		Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Sep-13
Infrastructure	Share in Total Advances	9.5	11.8	13.5	13.2	14.5	14.7
	Share in Total Stressed Advances	8.3	8.8	8.4	21.2	27.6	30.3
Iron & Steel	Share in Total Advances	3.9	4.1	4.4	4.6	4.9	4.7
	Share in Total Stressed Advances	5.1	7.8	7.7	6.7	8.1	9.2
Textiles	Share in Total Advances	3.8	3.8	3.8	3.4	3.7	3.4
	Share in Total Stressed Advances	9.0	11.6	12.2	8.9	7.4	7.4
Aviation	Share in Total Advances	0.9	1.0	0.9	0.7	0.5	0.5
	Share in Total Stressed Advances	0.1	1.1	1.8	0.3	3.5	3.5
Mining	Share in Total Advances	0.5	0.0	0.7	0.7	0.7	0.0
	Share in Total Stressed Advances	0.3	0.2	0.4	0.4	0.5	0.8
Total of these Sectors	Share in Total Advances	18.0	21.3	23.3	22.0	24.2	23.9
	Share in Total Stressed Advances	23.8	29.5	30.5	43.3	47.2	51.1

Source: Report on Trend and Progress of Banking in India ,RBI 2001-2013

Table 4 Share of PSBs in the Total GNPAs of the System

Year	PSBs GNPA (Rs in Crore)	PSBs Per cent to Total GNPAs	OPSBs GNPA (Rs in Crore)	OPSBs Per cent to Total GNPAs	NPBs GNPA (Rs in Crore)	NPBs Per cent to Total GNPAs	FBs GNPA (Rs in Crore)	FBs Per cent to Total GNPAs	All Banks GNPA (Rs in Crore)
2001	54672	-	-	-	-	-	-	-	-
2002	56473	79.6	4635	6.5	7032	9.9	2780	3.9	70954
2003	54090	75.4	4308	6.2	7490	14.2	2894	4.2	68781
2004	51537	79.4	4392	6.8	5951	9.2	3013	4.6	64897
2005	48399	81.1	4201	7.2	4566	7.8	2321	4.0	58709
2006	41358	80.8	3740	7.3	4032	7.9	2057	4.0	51199
2007	38968	76.6	2969	5.9	6271	12.5	2419	4.9	50513
2008	40452	71.1	2557	4.6	10428	18.7	3080	5.6	56522
2009	44957	64.5	3072	4.5	13900	20.3	7293	10.7	69293
2010	59926	70.8	3622	4.3	13985	16.5	7126	8.4	84661
2011	74600	76.3	3695	3.8	14495	14.8	5061	5.2	97920
2012	112489	82.6	4200	3.0	14297	10.1	6288	4.4	142054
2013	164462	84.8	5210	2.8	15552	8.0	7970	4.3	193200
Average	64799	76.9	3884	5.24	9833	12.4	4502	5.4	84059

Source: Report on Trend and Progress of Banking in India of RBI 2001-2013

2.1.1 SHARE OF PSBS IN THE TOTAL GNPA OF THE SYSTEM

PSBs share a disproportionate and increasing burden in case of NPAs among the bank groups (i.e., share in gross NPAs as compared to share in advances). The share of PSBs in gross NPAs has increased over the last decade and particularly since 2009 (Table 4) .NPAs of PSBs accounted for 85 per cent of the NPAs of the banking system in 2013 as compared to 75 per cent in 2003. During this period the PSB's share in total bank credit increased only marginally, from 74 per cent to 76 per cent. This is in sharp cont rast to the performance of the other segments of the banking system especially the new private sector banks, whose share in NPAs has fallen from over 14 per cent in 2003 to 8 per cent in 2013.

In consonance with their share in total gross advances, public sector banks on an average, account for more than three fourth of theshare in total NPAs (76.9 per cent) followed by New private sector banks (12.4 per cent),foreign banks (5.4 per cent)and Old private sector banks (5.24 per cent). However, the share pattern in NPAs is distinct when viewed separately in the pre and post crises period. The average share of public sector banks in total NPAs has declined during the post crisis period (73 per cent), as compared to the pre-crisis period (79 per cent). Similarly the old private sector banks account for lesser NPAs during the post crisis period (4 per cent) compared with the pre-crisis period (7 per cent). However, the share of new private sector banks and foreign banks has gone up significantly in the post crisis period from over 10 per cent to 16 per cent and from over 4 per cent to 7 per cent respectively.

2.1.2 NET NPAS OF PSBS

Net NPAs indicate the difference between Gross NPAs and the amount of funds set aside as provisions for NPAs. They signify the extent of precautions taken by banks for managing the consequences of a rising volume of NPAs. Table 5 unfurls the trend in the Net NPAs of PSBs during the study period.

Table – 5: Net NPAs of PSBs

Year	Net NPAs (Amount Rs. In billion)	Incremental Net NPAs	Growth Rate(in per cent)	Net NPAs as percentage of Net Advances	Net NPAs as percentage of Total Assets
2001	279.77	-	-	6.7	2.7
2002	279.58	-0.19	-0.06	5.8	2.4
2003	248.77	-30.81	-11.02	4.5	1.9
2004	193.35	-55.42	-22.27	3.1	1.3
2005	169.04	-24.31	-12.57	2.1	1.0
2006	145.66	-23.38	-13.83	1.3	0.7
2007	151.45	5.79	3.97	1.1	0.6
2008	178.36	26.91	17.76	1.0	0.6
2009	211.55	33.19	18.60	-0.9	0.6
2010	293.75	82.2	38.85	1.1	0.7
2011	360.00	66.25	22.55	1.2	0.7
2012	593.00	233	64.72	1.5	1.0
2013	900.00	370	51.77	2.0	1.3
Average	308.02	47.71	12.19	2.34	1.19

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Net NPAs of PSBs have grown by 3.21 times. This is in consonance with the growth in the volume of Gross NPAs which has also risen by 3 times during the study period Year wise growths are negative till 2006. The growth of Net NPAs is the highest in 2012 (64.72 per cent)

Net NPA ratio (Net NPAs expressed as a percentage of net advances) of PSBs has dropped significantly during the study period. It has gone down to 2 per cent from 6.7 per cent. Similarly Net NPAs as a percentage of total assets of PSBs is on the declining trend during the study period. i.e., from 2.7 per cent to 1.3 per cent. These movements in the different dimensions of Net NPAs point out the efforts by PSBs to improve the quality of assets.

2.1.3 NET NPAS OF PSBS VS. OTHER SEGMENTS

Table 6 brings out the comparative trends in the Net NPAs of different bank groups during the study period. PSBs have the second highest average Net NPA ratio of 2.34 per cent, next only to Old Private Sector Banks with a figure of 2.52 per cent. PSBs outperform the Old Private Sector Banks with lower NPA ratios till 2006 and 2009. NPA ratios of PSBs are better than that of New Private Sector Banks during 2003, 2008 and 2009. But Foreign Banks outperform PSBs with lower Net NPA ratio in all years of the study period except 2009 and 2010. In short bank group wise trends show divergence in terms of Net NPA ratios which can be summed up as follows

- Till 2003- variation between NPA ratio of PSBs and other bank groups.

- 2003-06 – NPA ratios of all bank groups moved in tandem.

- 2007-09 – NPA ratios begin to decouple.

- After 2009 gap between PSBs and other bank groups started rising.

Table - 6:Net NPAs of PSBs Vs Other Segments of the Industry

Year	All Banks (in percent)	PSBs (in percent)	OPBs (in percent)	NPBs (in percent)	FBs (in percent)
2001	6.3	6.7	6.7	3.2	1.7
2002	5.5	5.8	7.1	5.0	1.9
2003	4.4	4.5	5.4	4.7	1.8
2004	2.8	3.1	3.8	2.4	1.5
2005	2.0	2.1	2.7	1.5	0.9
2006	1.2	1.3	1.7	0.8	0.8
2007	1.0	1.1	1.0	1.0	0.7
2008	1.0	1.0	0.7	1.2	0.8
2009	1.1	-0.9	0.9	1.4	1.8
2010	1.1	1.1	0.8	1.1	1.8
2011	1.0	1.2	0.6	0.6	0.7
2012	1.3	1.5	0.6	0.4	0.6
2013	1.6	2.0	0.8	0.5	1.0
Average	2.33	2.34	2.52	1.83	1.25

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

2.2 TRENDS IN SLIPPAGES AND RECOVERY OF PSBS
2.2.1 MOVEMENT IN GROSS NPAS

The flow of NPAs in PSBs during the study period shows that while the reduction in NPAs was to the tune of Rs. 58,167 crore between 2001-2013, the accretions to NPAs were close to Rs.1.04,131crores . If the entire period is split in to two 2001-2007 and 2008-2013 some interesting differences emerge. While during the first period the gap between accretion to NPAs and reduction in NPAs is comparatively smaller than during the second period. In other words with Rs. 3946crore of accretion and Rs. 8171 crore of reduction the gap is Rs. 4224 crore during the first period. In contrast during the second period of 2008-2013, the accretions are Rs.95707 crore and the reductions are Rs.49534 crore with a gap of Rs. 46,173 crore.

Table - 7 : Movements in Gross NPAs (Rs. in Crore)

Year	NPAs at the beginning of the Year	New accretion to NPAs during the Year	Reduction in NPAs during the Year	NPAs at the end of the Year
2001	Nil	Nil	Nil	54671
2002	54671	15668	1383 3	56473
2003	56473	16065 (2.47)	1845 2	54086
2004	54086	18133 (11.40)	2068 5	51534
2005	51534	15824 (-14.57)	2303 6	47322
2006	47322	16740 (5.47)	2304 0	41022
2007	41022	19614 (14.65)	2200 4	38632
2008	38632	24093 (18.59)	2246 6	40259
2009	40259	26963 (10.64)	2226 5	44957
2010	44957	44818 (39.83)	2984 8	59927
2011	59927	58226 (23.02)	4304 4	75109
2012	75109	92814 (37.26)	5010 0	117823
2013	117823	119800 (22.52)	7200 0	165623

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Slippages i.e., Fresh accretion to NPAs during the year, provide a better metric to assess the credit management system in banks. Growth rate of slippages which is negative in 2005 turned sharply positive in 2007, reaching a peak of 39.83 per cent in 2010 and falling down to 22.52 per cent in 2013. Contrary to the popular notion that the rising NPAs are a fallout of the global Financial Crisis, the data suggests that the credit administration in the banks had started weakening and the asset quality had started deteriorating even before the onset of the crisis. Further slippages exceeded reduction in NPAs especially post crisis as the ratio of reduction in NPAs to slippages fell dramatically from about 112.18 per cent in 2001 -07 to 60.10 per centin 2008-13. Year wise figures of slippages and reduction from 2001is indicated in Table 7

2.2.2 SLIPPAGE RATIO OF PSBS
Slippage Ratio indicates the relationship between fresh accretion to NPAs during the year and standard advances at the beginning of the year. Slippage ratio of PSBs had fallen by 1.6 per cent during the study period as given in Table 8. The average slippage ratio is identified at 2.75 per cent. Average slippage ratio of PSBs stood at 3.2 per cent during 2001-07.In the after – math of the crisis the slippage ratio of PSBs had fallen to 2.2 per cent. How ever from 2010 onwards the year wise slippage ratios of PSBs is on the increasing trend. From 2 per cent in 2010the ratio had increased to 3.1 per cent.

Table - 8: Slippage Ratio

Year	All Banks (in Percent)	PSBs (in Percent)
2001	4.6	4.7
2002	5.1	4.1
2003	3.7	3.6
2004	3.4	3.5
2005	2.5	2.5
2006	1.9	2.0
2007	1.8	1.8
2008	1.8	1.7

2009	2.2	1.8
2010	2.2	2.0
2011	2.1	2.2
2012	2.5	2.8
2013	2.7	3.1
Average	2.80	2.75

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

2.2.3 NET SLIPPAGE RATIO OF PSBS

Table - 9: Net Slippage Ratio

Year	All Banks (in Percent)	PSBs (in Percent)
2001	2.2	2.2
2002	3.2	2.1
2003	1.7	1.6
2004	1.4	1.7
2005	0.6	0.4
2006	0.4	0.3
2007	0.8	0.6
2008	0.9	0.7
2009	1.2	0.7
2010	1.4	1.2
2011	1.1	1.2
2012	1.5	1.8
2013	1.7	1.9
Average	2.5	1.3

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Net Slippage ratio is defined as slippage ratio net of recoveries. The average net slippage ratio of PSBs is identified at 1.3 per cent. During 2001-07, PSBs had maintained the same average ratio. During 2008-13 the ratio dropped to 1.2 per cent. The ratio had moved in the upward trend since 2010 Table (9) presents the trend in the net slippage ratio of PSBs

2.3.2 ASSET QUALITY OF PSBS –RANKING OF BANKS

In order to identify the best bank in terms of asset quality two Ratios namely, gross NPAs to gross advances (GNGA) and Profit to Gross NPAs (PGN) are used. GNGA reflects the proportion of bad loans to total loans of a bank ,Probability of either recovery or generating any income from bad loans being less, more will be the ratio, more will be the chance of getting bank's net worth eroded. It also indicates share of interest earned from advances eaten up by NPAs. The second ratio reflects the credit risk level of banks due to presence of NPAs. Mean ranks of individual banks in terms of these Ratios during the study period were found out. The best was assigned Rank 1 and the worst was assigned Rank 26.

Table - 10: Ranks as Per Two Ratios of 26 Banks

Bank name	GNPA Rank of Mean Ratio	PGN Rank of Mean Ratio
State Bank of India	20	22
State Bank of Bikaner & Jaipur	10	11
State Bank of Hyderabad	7	5
State Bank of Mysore	15	14
State Bank of Patiala	5	8
State Bank of Travancore	8	13
Allahabad Bank	22	9
Andhra Bank	3	2
Bank of Baroda	18	7
Bank of India	12	17
Bank of Maharashtra	16	23

Canara Bank	4	6
Central Bank of India	24	26
Corporation Bank	2	3
Dena Bank	26	21
Indian Bank	21	1
IDBI Bank	1	16
Indian Overseas Bank	17	19
Oriental Bank of Commerce	9	15
Punjab& Sind Bank	25	4
Punjab National Bank	19	10
Syndicate Bank	11	20
Uco Bank	14	25
Union Bank	13	18
United Bank of India	23	24
Vijaya Bank	6	12

Source: Report on Trend and Progress of Banking in India, RBI 2001-2013

Banks like Corporation Bank and Andhra Bank have performed well with respect to Gross NPA Ratio. On the other hand Dena Bank, Punjab & Sind Bank, Central Bank of India, United Bank of India and Allahabad bank are poor performers in terms of Gross NPA Ratio. The same trend is observed with respect to PGN. Only exception is IDBI bank Ltd. which has managed its NPAs well, but has failed to generate profit presumably due to unremunerated advance portfolios. The worst performing banks with respect to both the ratios are Central bank of India, Dena bank, State Bank of India and United bank of India.. There are three banks , namely, Allahabad bank, Indian bank and Punjab & Sind bank which have performed well with respect to PGN but their ranks with respect to Gross NPA ratio are bad. These banks may have failed to follow prudential norms for granting advances but have managed the position of the level of credit risk. This may be due to their diversified sources of income and higher average earning assets which have improved their net profit margin. From Table 12, one can infer that Corporation Bank is the best bank in terms of asset quality with the least rank of two in terms of Gross NPA Ratio and three in terms of PGN Ratio. Central Bank of India has the worst Asset quality with ranks of twenty four and twenty six respectively.

3. CONCLUSION

From the study it is cleared that asset quality of PSBs has deteriorated in the post crisis period. In fact after 2009, the gap between PSBs and other banks has widened in terms of Net NPAs; restructured loans have also grown significantly since 2008. In general, the cause of rising NPAs could be many and include genuine business reasons like sudden slow-down in the economy –domestic and global, aggressive policies pursued by other countries ,and natural calamities. There are other factors too and there is need to address the attitudinal problem of PSBs to address issue of rise in NPAs.

Finally to conclude, the current situation has raised an important issue which needs extensive research in addressing the problem of rising NPAs in PSBs. They are different in terms of ownership and obviously follow different strategy to finance and recover loans from borrowers. In addition to better training of the staff, these banks have to focus on standardization of norms, improvement in credit appraisal, post – disbursement supervision and credit monitoring. The Government and RBI too have the responsibility of addressing the gaps in legal, policy and regulatory frame work so as to avoid further loss to the national exchequer.

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INFORMATION COMMUNICATION TECHNOLOGY IN UNIVERSITY ADMINISTRATION

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ABSTRACT

Technology adoption has made many industries productive and competitive. Higher education domain has also realized importance of ICT adoption in universities and colleges. The primary objectives of saving time, money and efforts, effective communication and decision making with real time reports are satisfied by ICT adoption in university system. Maharashtra government is leading ICT user and universities in Maharashtra are no exception. North Maharashtra university is studied for various ICT aspects.

Keywords: Information Technology, e-Governance, University

1. INTRODUCTION

North Maharashtra University is leading university in India which has adopted technology for integrated data management, efficient services and effective decision making. It has implemented SAP for its internal administration. University has adopted 'eSuvidha' an educational eGovernance scheme. All the students of from university and two hundred plus affiliated colleges are the beneficiaries. Students are offered personalized access for accessing various academic services. It has made important activities like affiliation, staff approval & admissions online. The examination and assessment is on the way of going online. University has got advantage of technology for improving efficiency.

2. REVIEW OF LITERATURE

Staffan Lindell of Intelligentor HB, Sweden in his paper - Students as e-Citizens - Deriving Future Needs of e-Services for Students states that, "E-services for students are rapidly becoming more commonplace, but there exists a problem with the way that these e-Services are being developed. They are today made from the perspective of the organization and as such the accessibility for the student is hampered. A student has to remember several different sets of login requirements just to go about the daily life. The problem that is created by this organizational way of thinking is illustrated through the fact that students sometimes forego the e-service and uses a manual variant instead. It takes up a lot of time just to move between the different locations of the e-services and the multitude of logins creates a barrier which the student has to overcome in order to access the e-service they want."

The UNESCO definition (www.unesco.org) is: "E-Governance is the public sector's use of information and communication technologies (ICT) with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. E-Governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organizing and delivering information and services. E-Governance is generally considered as a wider concept than e-government, since it can bring about a change in the way citizens relate to governments and to each other. E-Governance can bring forth new concepts of citizenship, both in terms of citizen needs and responsibilities. Its objective is to engage, enable and empower the citizen."

Rowley (2006)[1] defines e-services as: "…deeds, efforts or performances whose delivery is mediated by information technology. Such e-service includes the service element of e-tailing, customer support, and service delivery". As per Wikipedia this definition reflect three main components- service provider, service receiver and the channels of service delivery (i.e., technology). For example, as concerned to public e-service, public agencies are the service provider and citizens as well as businesses are the service receiver. The channel of service delivery is the third requirement of e-service. Internet is the main channel of e-service delivery while other classic channels (e.g. telephone, call centre, public kiosk, mobile phone, television) are also considered.

3. THE STUDY

North Maharashtra University is leading university in the country, which has adopted technology for efficient and effective administration and fast and quality service delivery for its stakeholders.

The following diagram represents overall technology adoption model of North Maharashtra University.
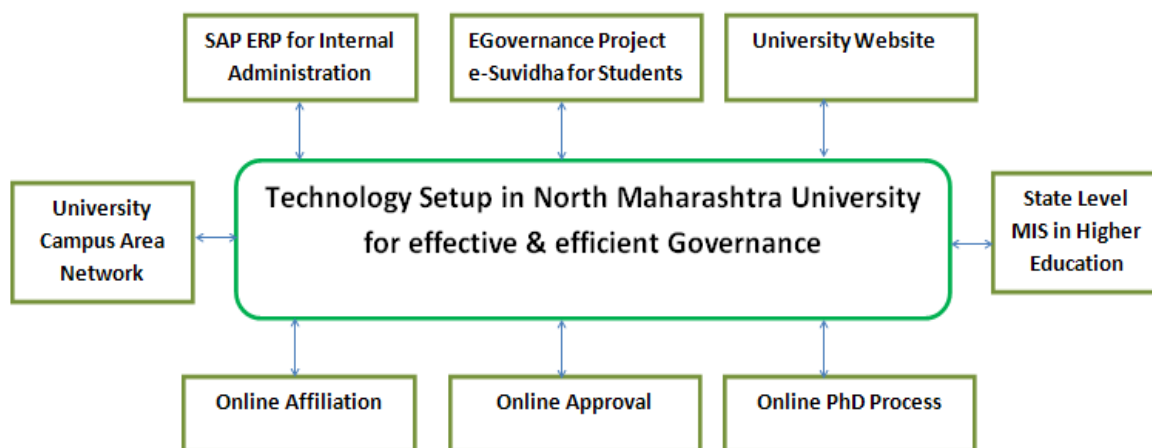
UNIVERSITY WEBSITE

It will not be exaggeration to say that North Maharashtra University has one of best website among universities in Maharashtra. All academic and administrative information is available on the website. The special student corner is established from which student access services can like syllabus, examination time table, results etc. The website is very dynamic and updated on regular basis.

ONLINE AFFILIATION

The university has made its affiliation system online. The application for affiliation, local inquiry committee appointments, report submission by LIC, issue of permission letter towards affiliation, all this is online and has proved as very efficient system saving efforts, time and money.

Every teacher is assigned with individual login and local inquiry committee appointments are done on this login of teacher.

SAP ERP FOR INTERNAL ADMINISTRATION

Enterprise Resource Planning covers the techniques and concepts employed for the integrated management of businesses as a whole, from the viewpoint of the effective use of management resources, to improve the efficiency of an enterprise. ERP packages are integrated software packages that support the ERP concepts.

Initially, ERP packages were targeted at the manufacturing industry, and consisted mainly of functions for planning and managing core businesses such as sales management, production management, accounting and financial affairs, etc. However, in recent years, adaptation not only to the manufacturing industry, but also to diverse types of industry and universities are one such institution where ERP is adopted.

In North Maharashtra University, SAP R/3 ERP is implemented for internal administration. It has particularly proved helpful in managing accounting, finance & procurement activities.

THE IMPORTANT ADVANTAGES ACHIEVED ARE

- Cycle time reduction

- Inventory reduction

- To support business growth requirements

- Global requirements including multiple languages and currencies

- To provide flexible, integrated, real-time decision support

- Improve responsiveness across the organization

- To eliminate limitation in legacy systems

- Increased functionality at a reasonable cost

- Client server systems technology

UNIVERSITY CAMPUS AREA NETWORK

North Maharashtra University has implemented University wide Campus Area Network with funding from UGC and all academic and administrative departments are covered under this Campus Area Network. With high speed network all departments are sharing resources.

E-GOVERNANCE PROJECT E-SUVIDHA FOR STUDENTS

Educational E-Governance: Educational e-Governance means governance of various educational activities in university and colleges in electronic way. It includes management of academic and administrative activities.

Government of Maharashtra State has issued a government resolution on June 19, 2006 for the adaption and implementation of 'eSuvidha' in all of the universities in state with a motive to serve and enable all students irrespective of their location of residence causing inconvenience in traditional setup. Government has appointed Maharashtra Knowledge Corporation Limited popularly known as MKCL as nodal agency for implementation of eSuvidha in universities and colleges in Maharashtra. It is also proposed to charge small fees for service. 'eSuvidha' is a subset of Digital University framework offering primarily various services to students of the university. It has a unique, customizable yet integrated 'Student Life Cycle Management System'.

Digital University offers various facilitation services including Information services, learning services, Administrative and Facilitation Services, Participative and Collaboration Services.

STATE LEVEL MIS IN HIGHER EDUCATION

After successfully implementing eSuvidha for state universities, Government of Maharashtra has decided to go for comprehensive Management Information System for all universities and colleges in the state. It is implemented in the university from academic year 2012-13. The MIS will provide state wide comprehensive data to Government and the repeated data submission by universities to Government can be avoided.

ONLINE APPROVAL

The staff approval process is online. Colleges need to submit advertisement request to university online. The university will inform advertisement status online. The interview committee appointment, its report submission will also be done online. This has brought transparency in the approval process and especially online tracking system for various activities related to approval made it very useful.

ONLINE PHD PROCESS

The university has made PhD process online. Application for entrance test, entrance examination, and result declaration is online. The pre-PhD process will also be made online from this year and submission of six monthly progress report; synopsis submission etc. will also require to be done online using personalized login provided to research scholar.

4. CONCLUSION

The North Maharashtra University has benchmarked in using technology for almost every activity of the administration. It may be academic or administrative. The accuracy, efficiency and transparency are achieved by university in admission, affiliation, approval and examination process. The state-wide Online Admission system solution made available by Maharashtra Knowledge Corporation Limited is adopted by university and it has provided an opportunity to affiliated colleges in attracting students from all corners of the state. The university is planning for going partly adopting multiple choice question patterns for professional courses and implementing it with the help of IT. The distance education unit of university has also adopted technology for training. The university is also planning for examination evaluation process online. In near future university will defiantly adopt cloud computing based model and will make existing systems more effective.

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INVESTMENT BEHAVIOUR OF WORKING WOMEN - A STUDY OF LUDHIANA DISTRICT IN PUNJAB

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INTRODUCTION

Every person has to work to earn money to meet their needs. Different persons do different jobs. Some people do business, some do labour jobs and some persons do office jobs to fulfil their needs. They get money for their efforts. They invest their money to get extra return. Every person wants to invest for better future out of their earnings. Investment is that part of money which is invested in a security or property with an aim to earn future returns. The returns may be in the shape of interest, dividend or profit derived from that security or property. There are different types of investment such as fixed deposits, post office saving schemes, P.P.F. bond, stocks, real estate etc. Investment is being done by both men and women. Most of the men prefer to invest in equity shares, real estate and fixed deposits. They invest with an aim to get appreciation in capital, wealth creation, retirement purpose and education and marriage of children etc.

In the past, women were investing, mostly in gold, Jewellery, ornaments etc. Presently, the attitude of women towards investment has been changed. They are more educated and aware about investment avenues. They are now investing in post office saving schemes, fixed deposits, real estate, mutual funds apart from gold and silver. The income and education level of women has been increased many folds. They are now at par or even above them. They are taking investment decisions independently.

Most of the women see themselves as savers rather than investors and prefer to invest in products that offer guaranteed returns. Some investment avenues are risky, less risky and some are risk free. The investors choose investment Avenue according to their want, risk and attitude capacity and accepted return. When the investors want high return they have to choose the risky investment avenue. Compared to females, males prefer to invest in investment avenues that are risky. Women's income is always considered as a complementary income within the family. But growing importance of income earned by women raises serious consideration. Women are more involved than ever in their household's investment and financial decision making. But there are many factors like marital status, education, and age etc. which affect investment decision of women. This study tells about the relation of different factors and investment decision of working women.

LITERATURE REVIEW

In the past, Many Organizations and individuals conducted numerous studies on the various aspects of the women investor. These studies were mainly related to financial behaviour of women with reference to investment, risk and return, however, not much of research was done on investment patterns and perception of women in Ludhiana city. So an effort is made to review some of the studies related to the topic in order to get into the intensity details of the chosen study.

Bajtelmit and Van Derhei (1996) find that the different gender has different opinion regarding investment decisions. Women are not interested in risky investment and are more conservative than men. Women don't prefer risky investment unless it has high return rate. Women always take cautious and less risky decisions.

Meenakshi Chaturvedi and Shruti khare (2012) suggests that there is growth in middle class family due to increase of working women and in their income. So women should have knowledge and information about investment options. Genuine effort should be made in this direction. So savings will be pooled and channelized in productive investment.

Rajarajan (1999) studied investors of Chennai .He found that life cycle stage of investor is important factor in deciding investment portfolio.

Sellappan R, Jamuna S.,TRN Kavitha (Feb 2013) they concluded that married women invest more than unmarried women. Younger women invest in shares, mutual funds, insurance and fixed deposits. On the other, middle age women prefer to invest in real estate.

Santhiyavalli G and Usharani M (March,2014). They took sample of 75 respondents. They studied that women investors took less risk and prefer safe investment. Role of women is very important in the economy of world. They concluded that women have less interest in shares and debentures market. So step should be taken to encourage it.

Mistry Kritika (Sep 2015) She conducted research on 150 individual investor behaviour in stock market in Bharuch district. Her objective is to identify the preferred source of information influencing investment decision and to access the psychology of investors in different market situations. She found that majority of small investors do not consider various financial elements before investing in to stock market. Investor does not take immediate decision. They firstly understand the market then react.

OBJECTIVE

1. To study the attentiveness of women towards investments.

2. To study the perception of working women while investment.

3. To study the investment preferences of working women

4. To examine the factors that affects the decision of investments with respect to age, and income.

RESEARCH METHODOLOGY

A research design must contain the clear statement of the research problem, procedures and techniques for gathering information, the population to be studied and the methods used in processing and analyzing data (Kothari, 1999).

In this paper, descriptive research methodology is used. Data is collected from primary as well as secondary sources. Primary data collection was collected through well-structured questionnaire. Data was collected from the investors through survey method. Secondary data was gathered from various sources such as journals, web sites, books and research articles etc.

POPULATION

The population for this study is working women investors of the Ludhiana city in Punjab.

Sample size

The survey was carried among 150 working women in the city. Of the 150 questionnaires, 126 filled forms were returned, representing 84% response rate that is considered an acceptable level of response rate in this type of research.

Sampling procedure

In this study, convenient sampling procedure is followed. While selecting the respondents, factors, such as age, educational qualification, and professional background of the working women were considered.

Data Processing

Collected data was properly edited. Different tables were prepared according to age group, marital status, qualifications, size of family and employment and were taken for further analysis. Factor analysis was also made. In order to find out significance of differences between the averages , chi square test has been applied.

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF THEIR AGE GROUP

Age level of an individual plays an important role. This table shows the classification of respondents on the basis of their age.

Table - 1

Sr. No.	Age Cluster	No. of Respondents	Percentage
1	Below 30 years(Young Respondents)	30	20
2	31-50(Middle Aged)	105	70
3	Above 50(Old People)	15	10
Total		**150**	**100**

Source: Primary Data

The above table shows that 30 out of 150 respondents are below 30 years and 105 are between 31-50 years and 15 respondents are above 50 years. In this way, 70% of total respondents belong to middle age.

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF MARITAL STATUS

Marital status of respondents has also effect on the investment behaviour. Married woman has more responsibilities than unmarried. Unmarried women spend more on luxurious as compare to married women. The following table shows the classification of respondents on the basis of their marital status.

Table - 2

Sr. No.	Marital Status	No. of Respondents	Percentage
1	Single	45	30
2	Married	90	60
3	Widow	15	10
Total		**150**	**100**

Source: Primary Data

Table 2 shows that 60% of total respondents are married, 30% are single and 10% are widow. So it is concluded that more than 50% are married respondents.

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF THEIR EDUCATIONAL QUALIFICATION
Education improves the thinking of person and enhances reasoning power. It gives shape to him.So educational level have impact on the investment pattern. This table shows the

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF EDUCATIONAL CLASSIFICATION

Table - 3

Sr. No.	Educational Qualification	No. of Respondents	Percentage
1	Under Graduate	15	10
2	Graduate	45	30
3	Post Graduate	90	60
Total		**150**	**100**

Source: Primary Data

The above table depicts that 90 respondents are post graduate, 45 are graduate and 15 are under graduate.

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF NUMBER OF DEPENDENTS
A person motivates to earn more when there are more dependents. She realise more responsibility and wellbeing of dependents. This table shows the classification of respondents on the basis of number of dependents.

Table - 4

Sr.No.	No. of Members	No. of Respondents	Percentage
1	Below-4members(Small Family)	30	20
2	4-5 members (Middle Family)	105	70
3	Above-5members(large Family)	15	10
Total		**150**	**100**

Source: Primary Data

The above table 4 shows that out of 150 respondents 105 are have middle family, 30 have small family and 15 respondents have large family.

CLASSIFICATION OF RESPONDENTS ON THE BASIS OF EMPLOYMENT
The women employees invest more than business women. The investment depends on the income of women, whether she is employed or not. This table shows the classification of respondents on the basis of employment.

Table - 5

Sr.No.	Type of work	No. of Respondents	Percentage
1	Employed	90	60
2	Self Employed	45	30
3	Household	15	10
Total		150	100

Source: Primary Data

This table reveals that out of 150 respondents, 90 are employed, 45 have their own business and 15 respondents are household.

AGE GROUP AND OPINION OF RESPONDENTS TOWARDS INVESTMENT PATTERN
Respondents are grouped into three age groups-Young, Middle aged and old. Young people are falling in the age group of 30 years, middle aged is in between 31 and 50 years and people who are above 50 years are in old age group.

Table - 6

Sr. No	Age Group	Opinion			
		Low	**Medium**	**High**	**Total**
1	Young	6(4)	15(21)	9(5)	30
2	Middle- aged	8(14)	85(73.50)	11(17.5)	105
3	Old	6(2)	5(10.50)	4(2.50)	15
	Total	20	105	25	150

Source: Primary Data

(Figures given in the brackets represent the Expected Frequency)

NULL HYPOTHESIS

The association between age group of the respondents and opinion of the respondents towards their investment pattern is not significant.

Chi-square value is calculated which is 16.15.It is greater than table value (9.49) at 5% level of significance for 4 degree of freedom. The null hypothesis is rejected and it could be concluded that the association between age of respondents and opinion of respondents towards investment is significant.

EDUCATION AND OPINION OF RESPONDENTS TOWARDS INVESTMENT PATTERN

Respondents are classified according to their level of education named as under graduate, graduate and post graduate. In table 7, different educational Qualification of respondents and opinion towards investment of respondents are given.

Table - 7

Sr.No	Educational Qualification	Opinion			
		Low	**Medium**	**High**	**Total**
1	Under Graduate	4(2.90)	8(8.90)	3(3.20)	15
2	Graduate	4(8.70)	36(26.70)	5(9.60)	45
3	Post Graduate	21(17.40)	45(53.4)	24(19.20)	90
	Total	29	89	32	

Source: Primary data

(Figures given in the brackets represent the Expected Frequency)

NULL HYPOTHESIS

The association between education of respondents and opinion of the respondents towards their investment is not significant.

Chi-square value is calculated, which is 11.81. It is greater than table value (9.49) at 5% level of significance for 4 degree of freedom. The null hypothesis is rejected and it could be concluded that the association between education of respondents and opinion of respondents towards investment is significant.

RELATIONSHIP BETWEEN MARITAL STATUS AND INVESTMENT PATTERN

The sample respondents are classified according to their marital status namely, single, Married and Widow. The Different marital status and opinion levels of respondents are given in the table.

Table - 8

Sr. No.	Marital Status	Opinion			
		Low	**Medium**	**High**	**Total**
1	Single	14(8.10)	19(27.60)	12(9.30)	45
2	Married	8(16.20)	68(55.20)	14(18.60)	90
3	Widow	5(2.70)	5(9.20)	5(3.10)	15
	Total	27	92	31	150

Source: Primary Data

(Figures given in the brackets represent the Expected Frequency)

NULL HYPOTHESIS

The association between Marital Status of respondents and opinion of the respondents towards their investment is not significant.

Chi-square value is calculated which is 18.35.It is greater than table value (9.49) at 5% level of significance for 4 degree of freedom.The null hypothesis is rejected and it could be concluded that the association between marital status of respondents and opinion of respondents towards investment is significant.

RELATIONSHIP BETWEEN SIZE OF FAMILY AND INVESTMENT PATTERN

The sample respondents are classified according to their marital Family size namely small, Middle-size and large. The Different family size of respondents and opinion levels of respondents towards investment are given in the table.

Table - 9

Sr. No	Family Size	Opinion			
		Low	**Medium**	**High**	**Total**
1	Small	5(4.20)	15(20)	10(5.80)	30
2	Middle	10(14.70)	80(70)	15(20.30)	105
3	Large	6(2.10)	5(10)	4(2.90)	15
	Total	21	100	29	150

Source: Primary Data

(Figures given in the brackets represent the Expected Frequency)

NULL HYPOTHESIS

The association between Family size of respondents and opinion of the respondents towards their investment is not significant.

Chi-square value is calculated which is 17.84.It is greater than table value (9.49) at 5% level of significance for 4 degree of freedom. The null hypothesis is rejected and it could be concluded that the association between Family size of respondents and opinion of respondents towards investment is significant.

CONCLUSIONS & SUGGESTIONS

Some suggestions are offered in the light of findings made in this paper.

1. Government and SEBI should take steps for the awareness of women investments.

2. There should be common grievance cell when they are cheated and misguided.

3. It is suggested that, Government should take necessary step to publish magazine like   Business Line, Financial Express and Business world etc.

4. The employers should organise investment and financial awareness programme by experts in offices.

5. Government should start more innovative projects like "Mahila Bank' where everything is being done by women. They can make investment in these banks.

6. Women should take help of reliable certified financial planner for making good investment decision and ideal portfolios.

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STUDY OF MOLECULAR INTERACTION IN AQUEOUS 2-MERCAPTOBENZOTHIAZOLE - CO(II), -NI(II), -CU(II) SOLUTION AT DIFFERENT TEMPERATURES & CONCENTRATIONS

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ABSTRACT
2-mercaptobenzothiazole is one of the pharmaceutically and biologically important heterocyclic compound having various applications in therapeutic chemistry. Due to the presence of sulfur and nitrogen there should be the possibility of different types of interactions. By taking these interaction into consideration density and ultrasonic velocity of aqueous 2-mercaptobenzothiazole – Co(II), 2-mercaptobenzothiazole – Ni(II) and -mercaptobenzothiazole – Cu(II) solutions was measured at different temperatures (303.15, 308.15, 313.15 & 318.15) K and concentrations In present investigation acoustical parameters such as intermolecular free length, isentropic compressibility, specific acoustic impedance, relative association and sound velocity number were use to interpret types of molecular interaction present in above given experimental solutions of different concentration at different temperatures. Measured values indicate the presence of effective correlation in the form of solute - solvent interactions and metal-ligand interactions for different concentration and different temperature.

Keywords: 2-mercaptobenzothiazole, ultrasonic study, acoustical parameters, molecular interactions

INTRODUCTION
2-mercaptobenzothiazole (fig-1) is heterocyclic compound represent the important class of medicine in the pharmaceutical chemistry and has versatile application in Rubber industries as a vulcanization accelerator. Also benzothiazole derivatives are part of compounds showing numerous biological activities [1-12]. The knowledge of fluid properties is important for many industrial applications. Among these properties density and viscosity plays an important role in many industrial processes, engineering applications [13] and also mixed solvents find practical applications in most chemical processes [14].

Ultrasonic method has become a powerful tool in providing information regarding the physiochemical properties of liquid system and also useful when dealing with the problems of structure and molecular interactions in liquids because of their accuracy. The thermodynamic parameters like adiabatic compressibility, acoustic impedance, intermolecular free length, molar refraction, molar sound velocity, specific refraction have proved to be of immense value predicting nature and strength of molecular association in liquid medium. 2-mercaptobenzothiazole – Co(II), 2-mercaptobenzothiazole – Ni(II) and 2-mercaptobenzothiazole – Cu(II) in aqueous solution at different temperature and concentrations measured in this study was lacking and therefore present work is taken in to consideration study acoustical parameters at different temperature and concentration in order to know the effect of temperatures and concentrations on acoustical parameters. The biological and industrial importance of 2-mercaptobenzothiazole makes our attention toward the measurement of their acoustical properties so get idea about solute – solvent and solute – solute interaction at variance of temperature and concentrations. As 2-mercaptobenzothiazole has a donation properties and it will form complexes with various metals whose acoustical properties give idea regarding various interactions exist in the solution of metal and ligand.

MATERIALS AND METHODS
The solvent i.e. Water used in this investigation is double distilled by using KMnO4 and NaOH. The ligand 2mercaptobenzothiazole (Hi-MEDIA, minimum wt. 97%), used are of synthesis grade. The ligand and metal solutions in water were prepared by dissolving an accurate amount in an aqueous solvent in standard flask with airtight caps and the mass measurement were performed using high precision digital balance (Adair Datta of accuracy ± 0.01 mg). The ultrasonic velocities 2mercaptobenzothiazole – Cu(II), 2mercaptobenzothiazole – Ni(II) and 2mercaptobenzothiazole – Cu(II) aqueous solutions of different concentration were measured by ultrasonic interferometer (Mittal enterprises, model F-81s) at 2 MHz having accuracy ± 1 m·s−1 in velocity. It consists of high frequency generator and a measuring cell.The densities of experimental solutions measured by using digital density meter (Anton Paar DMA 35 of accuracy ± 0.001). A thermostatically controlled well-stirred water bath whose temperature was controlled to ± 0.1 K was used for all the measurements.
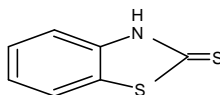

Figure 1 structure of 2-mercaptobenzothiazole

THEORY
Given acoustical parameters are calculated by using various equations.

Ultrasonic velocity $(u) = v\lambda$ (1)

Where u=ultrasonic velocity, λ=wavelength.

Isentropic compressibility $(\beta s) = 1/\rho u^2$ (2)   Where ρ=density u=speed of sound.

Intermolecular free length $(Lf) = K \beta s^{1/2}$ (3)

Where K=Jacobson constant [15].

Acoustic impedance $(Z) = u\rho$ (4)

Relative association $(RA) = (\rho/\rho_o)(u_o/u)^{1/3}$ (5)

Where ρ_o=density of solvent, u_o=velocity of solvent.

Also the sound velocity number is calculated from following equation;

Sound velocity number $[U] = u - u_o/u_o c$ (6)

[U]=sound velocity number, c=concentration of the solute.

RESULTS AND DISCUSSION
The experimentally determined values of density and ultrasonic velocities for solutions of metals and mixtures measured at (303.15K, 308.15K, 313.15Kand 318.5K) are given in Table 1. From the experimentally determined values, various thermo dynamical and acoustical parameters such as intermolecular free length, relative association, adiabatic compressibility, sound velocity number and acoustic impedance have been computed and are given in Table 2, 3 and 4.

Table 1.Experimental values of density and ultrasonic velocity of 2-Mercaptobenzothiazole + Co(II), 2-Mercaptobenzothiazole + Ni(II)and 2-mercaptobenzothiazole + Cu(II)at different concentration and at different 303.15, 308.15, 313.15 and 318.15.

C, Mol/lit			ρ ,g cm⁻³				u,m s⁻¹	
	303.15	308.15	313.15	318.15	303.15	308.15	313.15	318.15
2-Mercaptobenzothiazole + Co(II)								
0.00	0.896	0.902	0.908	0.914	1610.02	1614.05	1622.04	1628.03
0.01	0.900	0.908	0.912	0.918	1616.08	1618.01	1626.08	1632.01
0.02	0.904	0.912	0.916	0.924	1620.02	1626.02	1632.01	1640.01
0.03	0.912	0.920	0.922	0.932	1628.06	1630.01	1636.04	1642.09
0.04	0.916	0.924	0.928	0.936	1632.01	1634.03	1640.03	1648.02
0.05	0.922	0.930	0.934	0.942	1642.05	1644.07	1648.01	1656.03
0.06	0.928	0.936	0.944	0.948	1650.01	1654.01	1656.06	1662.08
0.07	0.932	0.940	0.946	0.954	1658.04	1662.09	1666.04	1670.06
0.08	0.938	0.944	0.952	0.958	1664.03	1668.04	1672.06	1676.04
0.09	0.942	0.954	0.956	0.964	1676.06	1678.02	1682.02	1682.06
0.10	0.948	0.958	0.962	0.968	1684.09	1688.06	1686.03	1686.04
2-Mercaptobenzothiazole + Ni(II)								
0.00	0.892	0.898	0.904	0.912	1604.02	1608.01	1614.07	1620.02
0.01	0.894	0.906	0.916	0.924	1610.04	1616.03	1620.02	1626.04
0.02	0.906	0.914	0.922	0.932	1614.09	1622.01	1624.03	1632.07
0.03	0.916	0.924	0.936	0.940	1622.01	1628.05	1630.06	1638.03
0.04	0.922	0.938	0.944	0.952	1626.08	1632.08	1636.03	1642.09
0.05	0.934	0.942	0.950	0.968	1630.06	1636.01	1642.07	1646.06
0.06	0.948	0.958	0.962	0.976	1638.05	1644.06	1648.05	1654.03
0.07	0.964	0.974	0.978	0.988	1642.04	1650.01	1656.03	1662.01

0.08	0.982	0.996	0.988	0.996	1648.05	1658.04	1662.08	1668.02
0.09	0.996	1.0012	1.0014	1.0018	1652.09	1664.03	1668.04	1674.01
0.10	1.0018	1.0026	1.0032	1.0036	1658.03	1670.01	1674.06	1678.07
2-mercaptobenzothiazole + Cu(II)								
0.00	0.892	0.898	0.906	0.910	1602.08	1606.04	1610.09	1614.01
0.01	0.896	0.904	0.912	0.916	1608.05	1610.02	1616.03	1620.06
0.02	0.898	0.908	0.914	0.922	1616.04	1618.05	1622.05	1626.02
0.03	0.902	0.912	0.918	0.926	1618.07	1622.03	1628.09	1630.09
0.04	0.906	0.916	0.924	0.932	1622.03	1626.06	1630.08	1636.08
0.05	0.912	0.922	0.928	0.938	1628.01	1632.08	1634.05	1640.01
0.06	0.916	0.926	0.934	0.942	1628.07	1638.01	1640.04	1646.03
0.07	0.920	0.928	0.938	0.948	1634.01	1644.01	1648.09	1650.01
0.08	0.930	0.934	0.944	0.954	1642.06	1648.07	1652.07	1656.01
0.09	0.936	0.942	0.952	0.958	1646.09	1652.05	1658.03	1660.01
0.10	0.940	0.946	0.956	0.968	1658.02	1664.08	1670.01	1674.01

Table 2. Isnotropic compressibility, relative association, acoustic impedance, linear length and sound velocity number for 2-mercaptobenzothiazole + Co(II) at different temperature and concentration.

C, mol/lit	$\beta s \times 10^{-10}$, m^2.N^{-1}	R_A	$Z \times 10^{-5}$, kg.m^2	L_f, A$_0$	[U],kg, mol^{-1}
303.15K					
0.00	4.30	-	14.42	0.4322	-
0.01	4.25	1.0273	14.54	0.4296	0.3763
0.02	4.21	1.0471	14.64	0.4276	0.3105
0.03	4.13	1.0882	14.84	0.4236	0.3734
0.04	4.09	1.1090	14.94	0.4217	0.3414
0.05	4.02	1.1581	15.13	0.4177	0.3978
0.06	3.95	1.1999	15.31	0.4144	0.4139
0.07	3.90	1.2407	15.45	0.4115	0.4260
0.08	3.85	1.2760	15.60	0.4087	0.4193
0.09	3.77	1.3381	15.78	0.4049	0.4557
0.10	3.71	1.3858	15.96	0.4017	0.4600
308.15K					
0.00	4.25	-	14.55	0.4296	-
0.01	4.20	1.0140	14.69	0.4272	0.2453
0.02	4.14	1.0337	14.82	0.4241	0.3708
0.03	4.09	1.0505	14.99	0.4213	0.3296
0.04	4.05	1.0629	15.09	0.4193	0.3094
0.05	3.97	1.0896	15.28	0.4154	0.3719
0.06	3.90	1.1166	15.48	0.4116	0.4126
0.07	3.85	1.1379	15.62	0.4087	0.4251
0.08	3.80	1.1551	15.74	0.4064	0.4181
0.09	3.72	1.1884	16.01	0.4018	0.4403
0.10	3.66	1.2149	16.17	0.3986	0.4585
313.15K					
0.00	4.18	-	14.72	0.4261	-
0.01	4.14	1.0119	14.82	0.4241	0.2490
0.02	4.09	1.0275	14.94	0.4217	0.3073

0.03	4.05	1.0419	15.08	0.4193	0.2877
0.04	4.00	1.0564	15.21	0.4169	0.2772
0.05	3.94	1.0788	15.39	0.4135	0.3202
0.06	3.86	1.1064	15.63	0.4093	0.3495
0.07	3.80	1.1289	15.76	0.4064	0.3875
0.08	3.75	1.1484	15.91	0.4037	0.3854
0.09	3.69	1.1740	16.08	0.4005	0.4108
0.10	3.65	1.1898	16.21	0.3983	0.3945
			318.15K		
0.00	4.12	-	14.88	0.4232	-
0.01	4.08	1.0117	14.98	0.4212	0.2444
0.02	4.02	1.0334	15.15	0.4178	0.3679
0.03	3.97	1.0463	15.30	0.4155	0.2878
0.04	3.93	1.0622	15.42	0.4131	0.3069
0.05	3.87	1.0847	15.59	0.4098	0.3439
0.06	3.81	1.1036	15.75	0.4070	0.3485
0.07	3.75	1.1267	15.93	0.4038	0.3688
0.08	3.71	1.1436	16.05	0.4015	0.3686
0.09	3.66	1.1632	16.21	0.3988	0.3687
0.10	3.63	1.1763	16.32	0.3970	0.3563

Uncertain ties in adiabatic compressibility (β_s) 0.01×10^{-10}, $m^2.N^{-1}$, Relative association (RA) 0.010, Acoustic impedance (z) velocity 1×10^{-5}, $kg.m^2$, Linear free length (LF) 0.00A0 and in sound velocity number 0.1×10^{-5}, $kg.m^2$ respectively. Table 3. . Isnotropic compressibility, relative association, acoustic impedance, linear length and sound velocity number for 2-mercaptobenzothiazole + Ni(II) at different temperature and concentration.

C, mol/lit	$\beta_s \times 10^{-10}$, $m^2.N^{-1}$	R_A	$Z \times 10^{-5}$, $kg.m^2$	L_f, A_0	[U],kg, mol^{-1}
			303.15K		
0.00	4.35	-	14.3	0.4348	-
0.01	4.31	1.0250	14.39	0.4326	0.3726
0.02	4.23	1.0545	14.62	0.4287	0.4356
0.03	4.14	1.0979	14.85	0.4243	0.3326
0.04	4.10	1.1219	14.99	0.4218	0.3113
0.05	4.02	1.1533	15.22	0.4181	0.3237
0.06	3.93	1.2054	15.52	0.4135	0.2703
0.07	3.84	1.2438	15.82	0.4085	0.2847
0.08	3.74	1.2951	16.18	0.4033	0.3119
0.09	3.67	1.3330	16.45	0.3995	0.3052
0.10	3.63	1.3699	16.61	0.3969	0.3491
			308.15K		
0.00	4.30	-	14.43	0.4322	-
0.01	4.22	1.0240	14.64	0.4282	0.2478
0.02	4.15	1.0446	14.82	0.4247	0.3739
0.03	4.08	1.0679	15.04	0.4209	0.3318
0.04	4.00	1.0921	15.30	0.4167	0.3116
0.05	3.96	1.1047	15.41	0.4148	0.3242
0.06	3.86	1.1401	15.75	0.4093	0.3317
0.07	3.77	1.1718	16.07	0.4045	0.3377

0.08	3.65	1.2159	16.51	0.3980	0.3271
0.09	3.60	1.2355	16.66	0.3956	0.3183
0.10	3.57	1.2506	16.74	0.3939	0.3613
			313.15K		
0.00	4.24	-	14.59	0.4292	-
0.01	4.15	1.0245	14.83	0.4248	0.3689
0.02	4.11	1.0389	14.97	0.4224	0.3714
0.03	4.02	1.0664	15.25	0.4176	0.3726
0.04	3.95	1.0874	15.44	0.4143	0.3103
0.05	3.90	1.1065	15.59	0.4115	0.2976
0.06	3.82	1.1327	15.85	0.4075	0.3100
0.07	3.72	1.1684	16.19	0.4022	0.3371
0.08	3.66	1.1933	16.42	0.3987	0.3259
0.09	3.58	1.2226	16.70	0.3946	0.3308
0.10	3.55	1.2381	16.79	0.3928	0.3721
			318.15K		
0.00	4.17	-	14.77	0.4257	-
0.01	4.09	1.0244	15.02	0.4214	0.3748
0.02	4.02	1.0449	15.21	0.4180	0.3720
0.03	3.96	1.0654	15.39	0.4147	0.3320
0.04	3.89	1.0871	15.63	0.4111	0.3418
0.05	3.81	1.1134	15.93	0.4067	0.3221
0.06	3.74	1.1390	16.14	0.4031	0.3306
0.07	3.66	1.1697	16.42	0.3987	0.3186
0.08	3.60	1.1920	16.61	0.3956	0.3252
0.09	3.56	1.2119	16.77	0.3931	0.3166
0.10	3.53	1.2230	16.84	0.3918	0.3717

Uncertain ties in adiabatic compressibility (βs) $0.01 \times 10\text{-}10$, m2.N-1, Relative association (RA) 0.010, Acoustic impedance (z) velocity $1 \times 10\text{-}5$, kg.m2, Linear free length (LF) 0.00A0 and in sound velocity number $0.1 \times 10\text{-}5$, kg.m2 respectively.

Table 4. Isnotropic compressibility, relative association, acoustic impedance, linear length and sound velocity number for 2-mercaptobenzothiazole + Cu(II) at different temperature and concentration.

C, mol/lit	$\beta s \times 10^{-10}$, m^2.N^{-1}	R_A	$Z \times 10^{-5}$, kg.m^2	L $_f$, A$_0$	[U],kg, mol^{-1}
			303.15K		
0.00	4.36	-	14.29	0.4353	-
0.01	4.31	1.0157	14.40	0.4327	0.375307
0.02	4.26	1.0332	14.51	0.4301	0.313899
0.03	4.23	1.0417	14.59	0.4286	0.373852
0.04	4.19	1.0541	14.69	0.4266	0.343824
0.05	4.13	1.0728	14.84	0.4236	0.324684
0.06	4.11	1.0776	14.91	0.4227	0.353591
0.07	4.07	1.0942	15.03	0.4202	0.338614
0.08	3.98	1.1226	15.27	0.4159	0.343122
0.09	3.94	1.1382	15.40	0.4136	0.332983
0.10	3.86	1.1680	15.58	0.4097	0.336716
			308.15K		
0.00	4.31	-	14.42	0.4328	-
0.01	4.26	1.0141	14.55	0.4303	0.4987
0.02	4.20	1.0339	14.69	0.4272	0.4353

0.03	4.16	1.0462	14.69	0.4252	0.4154
0.04	4.12	1.0586	14.89	0.4232	0.3742
0.05	4.07	1.0774	15.04	0.4203	0.3482
0.06	4.02	1.0939	15.16	0.4178	0.3736
0.07	3.98	1.1084	15.25	0.4159	0.3731
0.08	3.94	1.1239	15.39	0.4135	0.3889
0.09	3.88	1.1417	15.56	0.4108	0.3870
0.1	3.81	1.1718	15.74	0.4069	0.3855
313.15K					
0.00	4.25	-	14.58	0.4298	-
0.01	4.19	1.0178	14.73	0.4268	0.3686
0.02	4.15	1.0314	14.82	0.4247	0.3085
0.03	4.10	1.0476	14.94	0.4222	0.3302
0.04	4.07	1.0583	15.06	0.4203	0.3401
0.05	4.03	1.0706	15.16	0.4184	0.3469
0.06	3.98	1.0895	15.31	0.4155	0.3508
0.07	3.92	1.1103	15.45	0.4126	0.3713
0.08	3.88	1.1255	15.59	0.4103	0.3718
0.09	3.82	1.1474	15.78	0.4071	0.3715
0.10	3.75	1.1774	15.96	0.4034	0.3716
318.15K					
0.00	4.21	-	14.68	0.4278	-
0.01	4.15	1.0179	14.83	0.4248	0.3716
0.02	4.10	1.0359	14.99	0.4218	0.3719
0.03	4.06	1.0483	15.09	0.4199	0.3705
0.04	4.00	1.0667	15.24	0.4170	0.3405
0.05	3.96	1.0813	15.38	0.4147	0.3214
0.06	3.91	1.0980	15.50	0.4123	0.3498
0.07	3.87	1.1130	15.64	0.4100	0.3702
0.08	3.82	1.1323	15.79	0.4072	0.3703
0.09	3.78	1.1453	15.90	0.4054	0.3702
0.10	3.68	1.1868	16.20	0.3999	0.3583

Uncertain ties in adiabatic compressibility (βs) 0.01×10^{-10}, m2.N-1, Relative association (RA) 0.010, Acoustic impedance (z) velocity 1×10^{-5}, kg.m2, Linear free length (LF) 0.00A0 and in sound velocity number 0.1×10^{-5}, kg.m2 respectively. From fig 2 it is observed that the values of density increased as the concentration of 2-mercaptobenzothiazole increases & same with temperature. From fig 3 it is observed that the values of ultrasonic velocity increases with increase in concentration of 2-mercaptobenzothiazole, this indicates the association of molecules in the experimental solution [16]. This may be attributed to intermolecular hydrogen bonding and dipole – dipole interaction between solute and solvent molecules. Due to braking of hydrogen bonding number of monomeric water molecules increases which is attributed to increase in temperature. These monomeric water molecules get trapped in the vacant position present in the cage like structure of water molecules [17]. Due to addition of 2-mercaptobenzothiazole to the aqueous solutions of Co(II), Ni(II) and Cu(II) the interaction between water and Co(II), Ni(II), Cu(II) decreases as a result lowering of compressibility between molecules in the solutions.This results, polar molecules of 2-mercaptobenzothiazole forms more compact structure with the water molecule through intermolecular hydrogen bonding [18]. The solutions are predominantly composed of water-water interaction which forms the typical three dimensional cage-like structure of water and increase in aggregation observed in the experimental solutions due to water structure enhancement brought by an increase in electrostriction means in presence of Co(II), Ni(II) and Cu(II) [17 18], due to which increase in ultrasonic velocity takes place.
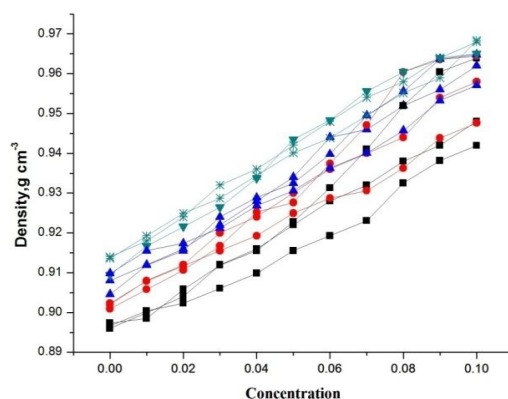
Figure 2. Density (ρ) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co(II), Ni(II) and Cu(II)at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (*).
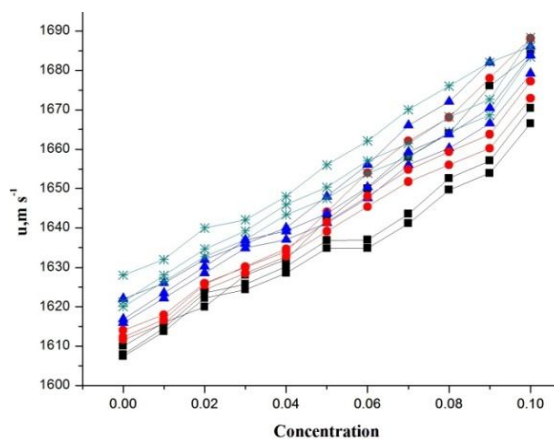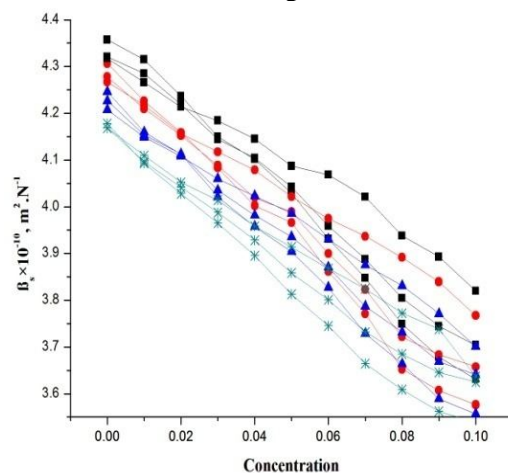

Figure 3. ultrasonic velocity (u) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co(II), Ni(II) and Cu(II) at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (*).

The molecules from the solutions get perturbed when ultrasonic wave incident on them this is because medium has some elasticity and due to which perturbed molecules regain their equilibrium positions [19]. Solvent molecules get attracted towards the solute molecule when solute added to the solvent this phenomenon is known as limiting comprehension. Every solvent has a limit for compression and is known as limiting compressibility. The compressibility of the solution is lowers than that of solvent due to the increase in volumetric concentration of solution with decrease in compressibility of the solution. However the electrostrictive forces cause breakage in the structure of water molecules with increase in solute concentration and compact packing occurs with the water molecules surrounding the solute due to which reducing of compressibility occurs. From fig 4 it is found that the adiabatic compressibility for 2-mercaptobenzothiazole – Co (II), 2-mercaptobenzothiazole-Ni (II) and 2-mercaptobenzothiazole – Cu (II) aqueous solutions decreases with increase in the concentration 2-mercaptobenzothiazole and increase in temperature. This indicate the existence of strong solute- solvent interaction through dipole-dipole and acceptor – donor interactions between hetero atoms of 2-mercaptobenzothiazole with surrounding water molecules [20, 21].

Figure 4. Adiabatic compressibility (βs) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co (II), Ni (II) and Cu (II) at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (*).

The decreasing value of intermolecular free length indicates closer packing [17] which is evident from fig 5. The intermolecular free length on mixing of solute to the solvent is responsible for the variation of ultrasonic velocity of the same solution. On the basis of a model for sound propagation given by Erying and Kincaid [22], free length decreases with increase of ultrasonic velocity and vice versa. The variation of ultrasonic velocity in liquids and their solutions can be determined on the basis of intermolecular free length [23]. Intermolecular free length (LF) is the distance between the surfaces of the neighboring molecules and indicates a significant interaction between solute–solvent as well as metal-ligand [25] suggesting a structure promoting tendency of 2-mercaptobenzothiazole –Co (II), 2-mercaptobenzothiazole-Ni (II) and 2-mercaptobenzothiazole – Cu (II) aqueous solutions. When the ultrasound wave propagates through a solution, some part of it travels through the medium and remaining part of ultrasonic wave gets reflected by the solute [26] it means solutes contract free flow of sound wave. The property that decreases this contraction or backward movement of ultrasonic waves is known as acoustic impedance (Z). The specific acoustic impedance is dependent on both concentration and temperature of the solution. As the internal pressure and cohesive energy [27] increases with solute concentration, strong intermolecular hydrogen bonding occurs between 2-mercaptobenzothiazole and water molecule. Hence, an increase in specific acoustic impedance is due to an increase in instantaneous pressure exert at any molecule in the above experimental solutions with propagation of a sound wave (fig 6). It is has been notice that the Co (II) – 2-mercaptobenzothiazole, Ni (II)-2-mercaptobenzothiazole and Cu(II)-complexes are formed by bonding between experimental metal ions and donor atoms of the 2-mercaptobenzothiazoles[28 ,29].
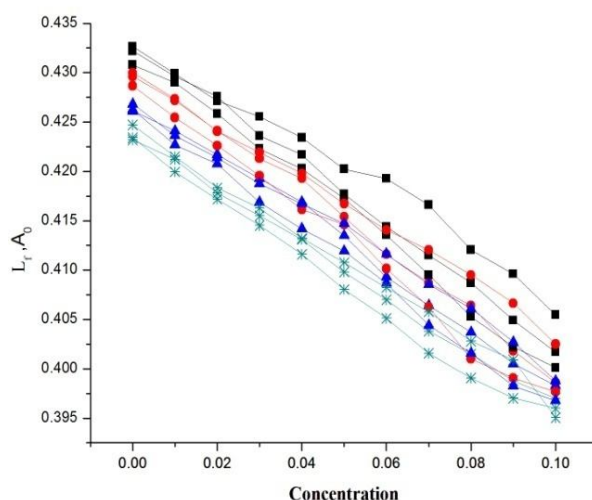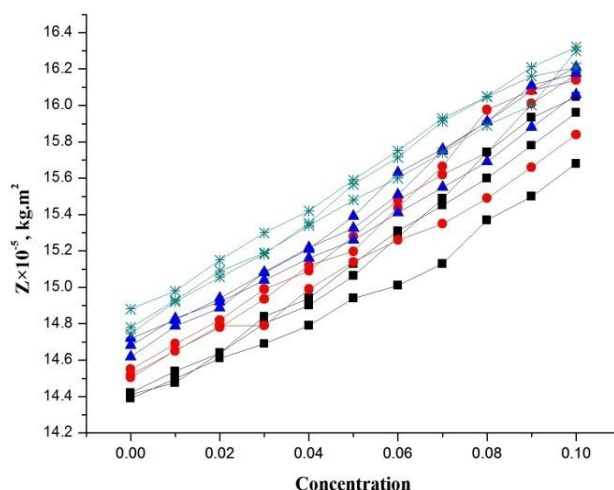

Figure 5 L4inear free length (Lf) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of of Co (II), Ni (II) and Cu (II) at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (*).
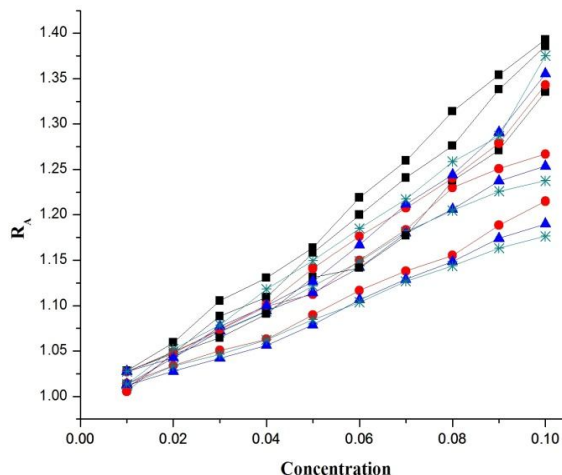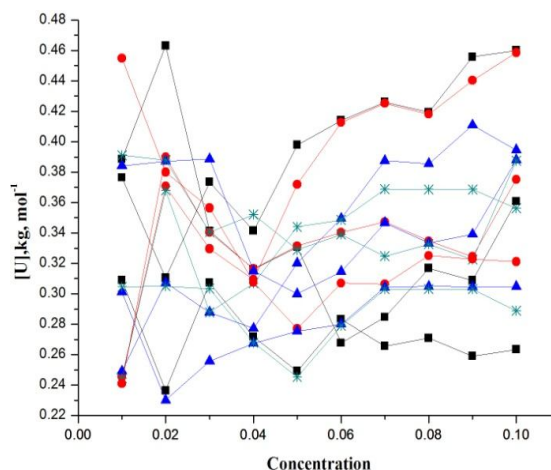

Figure 6. Acoustic impedance (Z) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co (II), Ni (II) and Cu (II) at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (*).

From fig 7 observes that the relative association (RA) increases with increase in temperature and the increase of concentration of 2-mercaptobenzothiazole. This is due to the solute-solvent interaction and metal -ligand interactions. It depends on either the breaking up of the solvent molecules on addition of solute molecules in solvent at certain temperature or the solvation of ions that are present [30, 31]. In general sound velocity number increases with increase in concentration of solute [30] and increase in temperature, however in present investigation there is no such regular trend is observed (fig 8).

Figure 7. Relative association (R_A) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co (II), Ni (II) and Cu (II) at temperatures 303.15K (■), 308.15K (●), 313.15K (▲), 318.15K (✳).

Figure 8. velocity number (RA) plotted against concentration of 2-mercaptobenzothiazole in aqueous solution of Co (II), Ni (II) and Cu (II) at temperatures 303.15K (**■**),308.15K (**●**), 313.15K (**▲**) 318.15K (✳)

CONCLUSION

The ultrasonic method is a powerful technique for characterizing physicochemical properties and existence of molecular interaction in the mixture. The result indicates that the density and ultrasonic velocity of aqueous 2-mercaptobenzothiazole – Co (II), 2-mercaptobenzothiazole – Ni (II) and 2-mercaptobenzothiazole – Cu (II) solutions increases with increase in temperature and concentration. It is also seen that the formation of linear plot between and respective parameters indicated the stronger solute–solvent and metal ligand interaction. These results give the scope for further study of acoustical parameters of various substituted thiazoles as a solute in various aqueous and non aqueous solvents. It will also provide the scope for the thermo acoustical study of complexes which are formed by the combination of thiazole as a ligand and metals ions.

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EUTHANASIA: HISTORICAL, SOCIAL, ETHICAL, MEDICAL AND LEGAL PERSPECTIVES

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ABSTRACT
Many thinkers and philosophers have time and again said human beings are born free and everybody has equal dignity and rights .Dignity is central to every human right. Out of all the rights drafted for individuals, Article 21 of the Indian constitution states that every individual has the Right to life and personal liberty and it is the most crucial fundamental human right and it is around this only the other rights of the individuals revolve. This right to life includes many aspects and has acquired a broader meaning with the passage of time. In several cases the Supreme Court of India in its judicial rulings has extensively interpreted the right to life and has further clarified that the right to life does not mean mere animal existence but a life which an individual leads with dignity, hence it is proposed by many if a person has right to live with dignity he should also be given the right to die with dignity as well. Euthanasia is not legally recognised in all countries across globe, but a few have given it a go ahead. Although there is no law in India relating to right to die as yet, there is an earnest need to look into this matter from a legal perspective .There is constant debate going on whether euthanasia should be made legal or not as some people are of the opinion that all human beings if they have right to their life and have right to decide what they want to do with their life they have right to end their life as well but on the other hand it is believed human life is sacred and no one under any circumstance has any right to end it .

Keywords:Euthanasia, Dignity, Right to life, Suicide, Right to die, Section 309 IPC.

INTRODUCTION
Every individual leading a human life should live in health and dignity. To force a person to be kept alive in a vegetative state when medical opinion is as certain as can be, that there is no chance for recovery is cruel both on the person and on his family and friends. Here comes in picture the concept of euthanasia. The decision to end life through euthanasia should also be understood in relation to cultural and social perspectives of the country as well. With the advancement in technology and medical sciences it does not guarantee a life which will be free of any diseases and a life which will have best quality.The patient who is in vegetative state and his family members, therefore, have an option to put an end to such an existence and let the person die a dignified and quick death. The argument for a poor quality of life contrasted with dignified death needs to be read in the context of the declining role of family as a supportive and caring unit to manage the sick. This responsibility of the family in many places has passed on to governmental and private agencies and trained medical personnel. In India, however, there is hardly any organized effort towards end-of-life care and hence patients with debilitating illness are forced to depend on family members with or without willing support. In Indian kind of set up where social and religious classes play lot of difference and people are very formal with each other it is likely they will never agree for termination of life for others even though a person is in complete vegetative state.

DEFINITION OF EUTHANASIA
Euthanasia is a very sensitive and contentious issue worldwide. The word **Euthanasia** comes from Greek words "**eu**" meaning **'good'** and "**thanatos**" meaning '**death**'**.** The Roman Catholic Church, in its Declaration on Euthanasia, for example, defines euthanasia as 'an action or omission which of itself or by intention causes death' (1980, p.6.). *It has been defined as the act or practice of ending the life of a person or animal having a terminal illness or a medical condition that causes suffering perceived as in compatible with an acceptable quality of life as by lethal injection or the suspension of certain medical treatment.* It is a painless manner of taking other person's life and is completely intentional with a motive behind it which could be compassionate one or any other depending on the case. Basic idea behind it is less painful death or limited suffering for an individual. It is normally voluntary in nature done on the request of the deceased, however it may be non-voluntary where doctor knows patient is going to die, but he gives him an extra dose of certain medicine to relieve pain knowing that extra dose can cause his death, this is not euthanasia. The main idea whether and act is euthanasia or not is dependent on the intention.

Euthanasia, is also known by certain other similar terms assisted suicide, physician-assisted suicide, and third type which is termed as mercy killing which means to take a conscious actions taken by an individual with a clear intention of ending a life so that pain and suffering comes to an end. The objective behind euthanasia as interpreted by many is as the practice of ending a life in a painless manner. The right to life in broader terms has been said to include right to death as well. It means that if an individual has rightfully lived life with dignity, he has full right to have a dignified death as also.

Euthanasia has been a very controversial and sensitive topic for ages now. **Hippocrates**, an ancient Greek physician considered by many to be the father of modern medicine, is said to have stated in 400 B. C., "I will give no deadly medicine to any one if asked, nor suggest any such counsel". Many doctors still follow this philosophy, which is part of the Hippocratic Oath. On the other hand, there are many other doctors who believe to help people suffering they don't mind ending their lives as well so that they can have a peaceful and dignified death.

Every society existing in world follows certain principles one of them is prohibiting and taking of life. But due to variations in cultural and religious sentiments it varies, where taking of life is considered wrong. When we analyse western tradition, it is found that in Greek and Roman time period practices as infanticide, suicide and euthanasia were very widely accepted. Most historians of western morals agree to, Judaism and the rise of Christianity have contributed greatly to the general feeling that human life has sanctity and must not deliberately be taken. To take an innocent human life is, in traditions mentioned above, is equated to illegally or forcibly taking life given by god. It has also been seen by influential Christian writers as a violation of natural law. Most of these thinkers and schools of thoughts, proposed that human life is very precious and must be preserved and taken care of.

The view of the absolute infringement of innocent human life remained virtually unchallenged until the sixteenth century when Sir Thomas More published his book 'Utopia' in which More portrays euthanasia for the desperately ill as one of the important components for an imaginary ideal community. But in subsequent centuries, many known British philosophers like David Hume, Jeremy Bentham and John Stuart Mill and many others challenged the religious basis itself of morality and the absolute prohibition of suicide, euthanasia and infanticide. It was in eighteenth-century when German philosopher Immanuel Kant, on the other hand strongly believed that 'man cannot have the power to dispose of his life'.

WHAT IS DIGNITY OF AN INDIVIDUAL?

The concept of dignity goes back to roman time period where it was believed the status and honour should be given to every individual who is worth it. Romans considered dignity to be made up of status, honour and respect and if dignity in any manner was infringed it invited remedies. Dignity of human being is not dependent on anything. "it is necessary to remember that human beings are different from animals ,animals have a thought of bodily related satisfactions whereas humans are made of study and reflection.".Man is considered to be incarnation of god on earth an example of it is that it was humans who decided that after the death of an enemy there should be decent burial. Jacques Martin a French Catholic philosopher mentioned that God's orientation decides naturally the goods or behaviors. He further added that human political activity is limited by God. He says that, even God can not alter the law of nature. Despite of infinite powers god has it cannot change certain things. Dignity of a man is inviolable and to protect it shall be the duty of the state authorities "Dignity does not consist in possessing honors but in the consciousness that humans deserve them.". It means dignity is deserved by everybody and cannot be measured in number or honors one has but is personal in nature. Human beings are different from animals and therefore are regarded to have dignity and have a mind to think. That is why it is said at the time of death also even enemy should be given decent burial. Kant said humans should chose their destiny i.e they make dignified choices and accordingly they make correct and wrong mistakes just to protect their dignity and accordingly select their destiny.

HOW THE CONCEPT ORIGINATED

It was in the mid of outbreak of war when Hitler ordered for mercy killing from mid of October 1939 to 1941, doctors and midwives were asked to give report of medical ill patients and patients who were not worthy to live.72,000 were killed in this operation of Hitler called Aktion-T4.Another example was in North Korea where all disabled kids were killed the moment they were born. This led to countries not discuss about euthanasia.

The topic of euthanasia came to light in trial of Jack Kevorkian, also known as 'Dr Death" it was found a doctor from Michigan claimed that he had helped at least 130 people die from 1990 to 1998. In 1999, Kevorkian was sentenced to 10 to 25 years in prison for second-degree homicide after giving a 52-year-old patient named Thomas Youk a lethal injection in 1998.

TYPES OF EUTHANASIA

Euthanasia is broadly classified into three main types. Euthanasia which is administered with the consent of the patient is called **Voluntary** Euthanasia. In this patient asks for help to die, stops taking food or medical treatment i.e in nut shell patient has decided not to live. The euthanasia which is undertaken without will of the patient is considered to be **involuntary** in nature i.e where patient who is incapable to take a decision for himself, an individual other than patient makes a decision for the patient. The third type is known as **non-**

voluntary euthanasia, in it the patient is in an unconscious state and as said technically incompetent to take a decision for himself.

THERE ARE TWO PROCEDURES TO ADMINISTER EUTHANASIA

- **Passive euthanasia** – In this type life-sustaining treatments which the patient was undergoing are withheld. The definition is a little vague. It happens when the medical treatment is either not given to the patient or is withheld. For example, if a doctor prescribes increasing doses of strong painkilling medicines which may eventually be life threatening for the patient, some may say passive euthanasia is taking place. But this may not be correct, because euthanasia has not taking place, as doctor has no intention of doctor to take life of the patient.

- **Active euthanasia** – Forceful or life threatening substances are used to end the patient's life. It includes certain acts undertaken by the patient himself or somebody on else to end life. It is legal in countries like The Netherlands & Belgium. The term assisted suicide is defined as "the intentional hastening of death by a terminally ill patient (patients who are suffering from a disease which cannot be cured even with medical aid and will lead to death of patient in short time) with assistance from a doctor, relative, or another person". It may include people suffering from unstoppable, persistent pain. It will also include experimental treatment by doctor.

WHERE IN WORLD IS EUTHANASIA LEGALISED

Euthanasia though is being widely discussed all over the world and it still continues to be more of a legal issue than a social one. Many countries of the world depending upon the circumstances and analysing them on individual case to case basis recognise and allow people to choose right to die over living, they consider it humane but it is case specific and is not uniformly applied to all the cases. Currently as per information available euthanasia is only legal in Netherlands, Belgium, & Luxembourg. Whereas suicide which is assisted has got legal sanction of countries like Switzerland, Germany, Albania, Colombia, Japan and in the US states of Washington, Oregon, Vermont, New Mexico and Montana. Countries where euthanasia has been termed as a criminal activity are Mexico, Thailand, and the Australian state of Northern Territory and the US State of California. It is to be noted that in the year 2014, it was Belgium which became first country in the world to have allowed child euthanasia.

WHAT IS INDIA'S STAND ON EUTHANASIA?

The great saints, sages of India from time immemorial have beckoned, welcomed, and met death at will by taking Samadhi which is complete absorption in God-consciousness to attain eternal peace and moksha. Many of them were even blessed with the greatest human virtue of 'ichcha mrityu' which is commanding death at will. They could not be killed otherwise. Such saints were idolised and worshipped as gods. In the Mahabharata we find that after the victory of good over evil and of dharma and after being freed from obligations and duties to society and the kingdom, both the ancestor and the guru of the Pandavas and Kauravas beckoned to death and voluntarily died. Lord Rama and his brothers who, after fulfilling their duties and obligations in life, voluntarily gave their lives by taking Samadhi in River Saryu in Ayodhya. There were no laws to restrict a saint, from taking Samadhi at will. On the opposing, the practice had religious sanctions. Recent efforts in India to encourage the High Courts of Bombay and Kerala to permit mercy killing and the case of Aruna have revived the debate of euthanasia in the Indian perspective.

In India many religions are against euthanasia like the Hindus think that a person who commits euthanasia does not attain moksha. Other religions which do not permit euthanasia are Islam, Christianity, etc. but the Jains are not against euthanasia. The Penal Code, based on British law at the time of the British rule, views suicide as a criminal act. But there is some sympathy for euthanasia in India it is passive euthanasia which is legal.

In democratic country like India where 'ichhaa mrityu' was acceptable in certain situations where one could in complete conscious state select right to die, there should be nothing wrong about making an informed decision for that person in his best interests, where he is permanently in a vegetative state. The Supreme Court of India has acknowledged that the right to dignity in life also extends to the right to a dignified death, though that ruling applied this principle only to 'natural death'.

On 7th March, 2011 passive euthanasia was legalised by Supreme Court of India, and it allowed for patients who are permanently in vegetative state their life support systems can be withdrawn. The landmark judgment was made by court when it refused mercy killing petition of Aruna Shaunbag who was for past 37 years still lying in the vegetative state in a Mumbai Hospital. The court gave stringent and hard guidelines where passive euthanasia can be given legal nod .It stated the entire process has to be monitored by none other than high court itself. The petition to seek approval for euthanasia can be made by close family members, parents and spouses

of the deceased to the high court. Only receiving the plea, if found genuine the chief justice of high court will constitute a bench to look into the case. The bench will further decide to constitute a committee of not less than three renowned doctors to advise them on medical details. Forms of active euthanasia, including the administration of lethal compounds still continue to be illegal in India.

EUTHANASIA AND SUICIDE

With rising cases of suicide and people being severely unwell, it is time now to extend adjust the law to the reality and morally and sensibility allow people to choose to die with dignity and peacefully. Hinduism criticises intention of killing oneself for selfish reasons. It is further believed it makes after lives even more difficult. Hindus would traditionally remain skeptic in their view about euthanasia. Crawford believe till the time soul is itself willfully not ready to leave the body it is not possible to have "iccha mrtyu"

Suicide and Euthanasia are two terms that need to be differentiated since there is some difference between these when it comes to their meaning and connotation. Suicide consists of intentionally killing oneself which can be because of many reasons like depression and no motivation to live. There is no specific age limit for suicide. On the other hand, Euthanasia can be interpreted as mercy killing and is mostly granted on the basis of medical reasons.

Suicide is the act where one has decided intentionally to end his life wilfully.i.e. One has decided to end life. Whereas euthanasia occurs mostly due to terminal illness and that too under medical supervision. Euthanasia can be interpreted as mercy killing where another person is responsible for the act of killing. The reason, however, is to relieve a person who is suffering from a terminal illness unlike in the case of suicide. In suicide, the individual himself engages in the killing as a solution to rid himself from problems that are pestering him. Euthanasia is not a sudden and a harsh act. It is a philosophical act. It takes place after a thorough deliberation with people concerned. Euthanasia takes place with a constructive thought.

A clear distinction has been made between euthanasia and suicide the case law Naresh Marotrao Sakhre v. Union of India.wherein J. Lodha clearly said that in case of suicide an individual ends his life at his own without any assistance from anybody whereas euthanasia cannot be undertaken alone and other human agency is involved to bring life to an end.

In a country like India which is still a developing nation and here most of the times even basic human rights and other basic issues like clean water, literacy, medical needs etc of human beings go unaddressed, issues related to euthanasia and physician assisted suicide hold no relevance. However, on the other hand, in India there are many diverse religions and people from different educational backgrounds the debate on euthanasia becomes more confusing as committing suicide is an illegal punishable offence in this country.

MEANING AND CONCEPT OF RIGHT TO LIFE IN INDIA

Everyone has the right to life, liberty and the security of person. The right to life is the most basic right of all other fundamental rights given to a citizen. It is considered as the heart of all the human rights. All other rights add quality to the life in question and depend on the pre-existence of life itself for their operation. As human rights can only attach to living beings, one might expect the right to life itself to be in some sense primary, since none of the other rights would have any value or utility without it. There would have been no Fundamental Rights worth mentioning if Article 21 had been interpreted in its original sense.

Article 21 of the Constitution of India, 1950 provides that, No person shall be deprived of his life or personal liberty except according to procedure established by law. According to the article 21 of the Indian constitution an individual should not only lead a life but lead a life of dignity. It means humans should lead a life different from that of animals where humans have an access to free open and clean air, good health and livelihood to survive. Right to life makes life, meaningful and worth living. For an individual to enjoy benefits of this right, they should be law in this regard and there should be fair and reasonable procedure prescribed by law to fulfil the conditions of Article 21.

The scope of Article 21 was a bit narrow till 1950s as ,it was held by the Apex Court in *A.K.Gopalan vs. State of Madra* that article 21 is exclusive of the contents of article 19 (1) (d). The scope of Article 21 has been expanded or modified gradually through different decisions of the Apex Court. In the case of *Maneka Gandhi vs. Union of India AIR*, the court imposed restrictions upon state how to deprive a person of his personal liberty and life. This view was further upheld in the case of *Francis Coralie Mullin vs. The Administrator*, *Union* or *Territory of Delhi and others* & it was stated that no one shall be deprived of his life or personal liberty except by procedure established by law and this procedure must be reasonable, fair and just and not arbitrary, whimsical or fanciful In *Olga Tellis vs. Bombay Municipal Corporation*, it was observed no malafide act can

ever get genuine existence in the eyes of law. Due procedure should be applied as prescribed by law for depriving a person of his fundamental right. Constitutional expert KK Venugopal said, Article 21 includes not one but rights of major sections concerning people be it wage, labour, women etc.

With the expansion of the right to life a very important alternate question came up was if right to life is inclusive of right to die as well. It was first time brought to light before the Bombay High Court in *State of Maharashtra v. Maruti Shripati Dubal,1987 Cr LJ 743(Bom)*. The Bombay High Court held that the right to life guaranteed by Art. 21 includes the right to live as well as the right to end one's own life if one so desires, and consequently the court struck down Section 309 of IPC which says that "Whoever attempts to commit suicide and does any act towards the commission of such offence, shall be punished with simple imprisonment for a term which may exceed to one year". The judges felt that the desire to die is not unnatural but merely abnormal and uncommon. Similarly, in 1985 *Delhi High Court in State v. Sanjaya Kumar ,1985 Cr LJ 931*, while acquitting a young boy who attempted to commit suicide strongly advocated for deletion of section 309, IPC from the Statute Book and said that the continuance of sec 309 of the Indian Penal Code is an anachronism unworthy of a human society like ours.

However, in *Chenna Jagdishwar vs. State of A.P., 1988 Cr LJ 549,* the Andhra Pradesh High Court held that the right to die is not a fundamental right within the meaning of Art. 21 and hence, Section 309 is not unconstitutional.In this regard eminent lawyer Ram Jethmalani says "The right to die is a part of a wider concept of liberty. The whole notion of the state controlling your life and death is grotesque". Equally radical is Dr Appa Ghatate, Supreme Court lawyer who agrees," The right to die should be included in the Indian Constitution as a fundamental right. The very idea of the state controlling your life is absurd. "

Mr. V. S. Deshpande after his retirement as Chief Justice of Delhi High Court , referring to what had been held by this Court regarding the scope of Article 21, took the view that if Section 309 is restricted in its application to attempts to commit suicide which are cowardly and which are unworthy, then only this section would be in consonance with Article 21, because, if a person having had no duties to perform to himself or to others when he is terminally ill, decides to end his life and relieve himself from the pain of living and the others from the burden of looking after him, prosecution of such a person would be adding insult to injury and it was asked : "Should a Court construe Section 309 IPC to apply to such cases?"

In 1994 a Division Bench of Supreme Court comprising of Justices R.M. Sahai and B.L. Hansaria in *P.Rathinam v. Union of India (1994)3 SCC 394,* while allowing the petitioners upheld the verdict given by the Bombay and Delhi High Courts and overruled Andhra ruling. The two petitioners assailed the validity of Sec 309 of the IPC by contending that the same is violative of Articles 14 and 21 of the Constitution. The right to live in Art.21 of the Constitution includes the right not to live, i.e., right to die or to terminate one's life. Further a division bench of the Supreme Court was also in agreement with high court ruling, that if Section 309 is struck it will be unconstitutional in nature

The Bombay High Court stated in paragraph 10 of its judgment that as all the fundamental rights are to be read together, as held in *R.C. Cooper v. Union of India* what is true of one fundamental right is also true of another fundamental right. It was then stated that it is not, and cannot be, seriously disputed that fundamental rights have their positive as well as negative aspects. For instance, freedom of speech and expression includes freedom not to speak. Similarly, the freedom of association and movement includes freedom not to join any association or move anywhere. It was, therefore, stated that logically it must follow that the right to live will include right not to live, i.e., right to die or to terminate one's life.

Later, in 1996 a five member Constitutional Bench of the apex Court in *Gyan Kaur v. Union of India (1996)2 SCC 648*, overruled its decision of 1994 in P.Rathinam v. Union of India AIR 1994 SC 1844 the Apex Court said that as regards section 309, IPC is concerned he 'right to life' guaranteed under Art 21 of the Indian Constitution did not include the 'right to die' or 'right to be killed' .It is further clarified in this judgement that right to life is granted as a natural right as per Article 21 and unnatural death in the form of suicide is inconsistent with provisions of Article 21. Article 21 guarantees only 'right to life' and liberty and 'right to die' is not part of it. The 'right to die with human dignity' cannot be construed to include within its ambit 'the right to terminate natural life', at least before the natural process of certain death. 'The right to die', if any, is inherently inconsistent with the 'right to life', as is death with life.

However, the chairman of the Law Commission of India, Dr. A R Lakshman, former Supreme Court judge submitted the 210th report to the Union Law Minister, suggested that the law regarding humanisation and decriminalisation in case of suicide attempts should be repealed.

RIGHT TO DIE: A NEW DIMENSION

In a strong judgement the honourable Supreme Court has allowed only passive euthanasia is permissible under Section 309 of Indian Penal Code in India in case of patients who are permanently in vegetative state whereas active euthanasia has been completely rejected.

The main reason for granting this approval was when the patient advertently refuses to accept any lifesaving drug or food and has simply decided not to live, he is committing a crime under IPC section 309 (suicide attempt).This judgment for euthanasia was pronounced in plea filed by journalist-writer, Pinki Virani's to allow passive euthanasia for Aruna Shanbaug. ". A petition for euthanasia was filed by Pinki Virani for her friend Aruna, but honourable court that she cannot be granted permission as her relationship with patient is not such and only KEM hospital or its staff can file as they are the ones who are taking care of Aruna. Court not only refuse euthanasia to Aruna ,but also laid strict rules for euthanasia as to who can apply for it and to whom it can be granted.

The Supreme Court ruled that though there is no statutory provision for withdrawing life support system from a person in permanently vegetative state, hence the apex court passed the judgement that it will decide in each case individually and refer case to medical bodies etc before deciding for passive euthanasia. And it was further stated by the court till the time the Parliament of India formulates new laws on euthanasia, decision taken in Ms Shanbaug's case has to be used as a point of reference by all the other courts. It was also stated that a person who attempts suicide is mentally disturbed and needs treatment and help and not punishment, hence attempt to suicide should be decriminalised.

The concept of euthanasia has been well portrayed in many roles in Bollywood as well. In other forms of media like newspapers, The Times of India has earlier also campaigned in favour of passive euthanasia and also for that an individual should not be considered a criminal for attempting suicide. Sanjay Leela Bhansali, a famous film director, made a film titled 'GUZAARISH' expressing his own views regarding Euthanasia. He supported grant of euthanasia depending severity of case as he was of the opinion that everybody can visit patient in hospital but nobody can actually experience his pain. He recommends it should be granted in cases where medically there is nothing possible beyond what has been done and if patient asks for a dignified death, it should be granted.

Mahesh Bhatt, another famous producer expressed his views that, he does not have a specific answer to euthanasia even though he tried to get answer in his book "A *Taste Of Life: The Last Days Of UG Krishnamurti*," in which his friend died in front of him because he never wanted to be hospitalised before his death .His friend could sense his end was near, so he stopped eating and drinking .He wanted a simple drama less death. When he died in front of Mahesh, people accused him of euthanasia .Mahesh reply was, if euthanasia can bring end to suffering of an individual it should be practiced.

In India, euthanasia has been termed as a criminal offence under Section 309 of the Indian Penal Code (IPC) which deals with an attempt by an individual to commit suicide and further Section 306 of the IPC which deals with abetment of suicide. Both the acts under both sections are found to be punishable offences. Medical council and judiciary have allowed only in rarest of circumstances and in those cases where patient is brain dead they can be taken off life support system but the consent of family members is required. Section 115 of mental health Act states that, notwithstanding anything contained in section 309 of the Indian Penal Code any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code. Further it states that, the appropriate Government shall have a duty to provide care, treatment and rehabilitation to a person, having severe stress and who attempted to commit suicide, to reduce the risk of recurrence of attempt to commit suicide. A major development in this direction took place on 7 March 2011 where the Supreme Court, in a landmark judgment, allowed passive euthanasia. Refusing mercy killing of Aruna Shaunbag, lying in a vegetative state in a Mumbai Hospital for 37 years, a two-judge bench laid down a set of tough guidelines under which passive euthanasia can be legalized through a high-court monitored mechanism. Similarly the Supreme Court of India is also of the view provisions of Article 21 guarantee protection to life and liberty of an individual and no way does it included right to die.

CASES FOR EUTHANASIA: ARGUMENTS FOR VOLUNTARY EUTHANASIA

- It should be right of the patient to withdraw from treatment as he is the one who is going through the pain, suffering and emotional and physical dependence on others. It will give the individual in vegetative state the ability to die with dignity. This will make his death less unpleasant and it will be more humane to as it will reduce his painful suffering. The relatives and others emotionally attached to the patient, when see the patient dying slowly and painfully would certainly be convinced that the law should be altered so that

assisted death be allowed to reduce their grief and suffering. In countries like India where there is already scarcity of medical resources channelling the limited medical resources for a more deserving patient will save misuse of medical facilities. In a democratic country like India while making a legislative decision regarding legalising euthanasia public opinion should be taken.

CASES AGAINST EUTHANASIA: REASONS AGAINST VOLUNTARY EUTHANASIA

- **Against Medical Ethics-**Doctor's and other professionals will compromise with their roles as they will give life taking drugs to the patient which may ultimately lead to his death. This is against ethical moral and medical norms.

- **Against Religious Sentiments-**Many religious beliefs still consider euthanasia nothing less than a murder and hence do not accept it. They see voluntary euthanasia nothing less than a form of suicide. Euthanasia weakens respect and sanctity of life.

- **Voluntary not clearly defined-**Euthanasia can be voluntary only when the patient himself is mentally competent and has a   complete understanding of available options and consequences, but to determine or to define competence precisely is not easy task.

- **Family Pressure-**There is always a possibility that the patient may start feeling that they are a financial, emotional and mental burden on the family members. And because of this pressure may give consent to die.

- **Right to kill-**Doctors feel that it is not granting right to die but it is more of right to kill that one is giving to patient. With so much of advancement in medical sciences there is always a possibility that patient might recover against adversities or may be diagnosis went wrong**.** There is always a possibility with good palliative care and correct treatment patient can recover. Therefore patients should be advised to take pain strongly.

- **Misleading Decisions**-Euthanasia cannot be properly regulated. There can be circumstances when the person himself is not in a condition to seek euthanasia then person related to him by blood or close relative might ask for it but there are chances that it could be misused.

- **Unclear definition of Terminally ill-**In the absence of exact definition of terminally ill patients even by medical fraternity euthanasia if allowed should be done in rarest of rare cases otherwise it might be misused. If suicide in not legalised then any form of euthanasia should also not be legalised.

RECOMMENDATIONS
Euthanasia is a very complex issue and requires lot of social and legal bindings of a country. It is very important that states play a very responsible and an important role in drafting a policy for euthanasia. There should not be any hasty solution to this issue but a consensus should be obtained from society in this regard.

FOR GRANTING EUTHANASIA FOR RECOMMENDATIONS CAN BE TAKEN INTO CONSIDERATION

- **Formation of Separate legal body**-There should be separate body or committee to decide for voluntary and non-voluntary euthanasia. The committee for deciding should be convinced about genuineness and severity of application and also that it is voluntarily asked by patient only.

- **Social Consent-**In cases where patient is not in capacity to take a decision for himself, the family consent or if a will by patient when he could decide should support it.

- **Medical Grounds-**It should be informed to the patient that nothing is possible in medical science that can cure him and it should be proved to the committee by the treating doctors as well.

- **Legal Consent-** In deciding for each case it should be seen that an apex body is constituted of people from both legal (i.e Supreme Court and High Court Judges, representatives from Human Rights Commission)and medical backgrounds (expert doctors and treating doctors)and also relatives of the patient should be there in that committee to decide for the patient. This will give less abuse for the patient and the top priority of the committee members should be to lessen pain of patient, in that interest that should take decision so that patient leads a dignified and willing life whatever he is left with. Otherwise his life will be no good.

- **Uphold Dignity of Individual-**Dignity and life of each individual is important and separate, therefore each case reported for euthanasia should be considered individually by the experts in detail before arriving at any final decision.

- **Medically Assisted-**The death should happen in a medically approved manner.

In nutshell it can be said that there are certain circumstances when no hope is left from medical services, euthanasia is correct action. The issues of euthanasia cannot be ignored just because it can be misused by some but that doesn't mean that the right to ask for own death itself should be denied to the people

CONCLUSION

Euthanasia still remains a very debatable issue in all spheres of life. Though it has been legalised in many countries there are some that do not want to discuss this issue altogether. India has legalised passive euthanasia in 2011, but there are still no specific laws relating to it. The belief that life is sacrosanct contradicts euthanasia. Life is the most precious gift that human beings have been given. The right to life is regarded as most prominent right among all the basic rights in the world & India is not an exception to it. Under the Indian constitution right to life is regarded as most important fundamental right. Notwithstanding this, there are times when life becomes so difficult or unbearable that many have, at one time or another wished they were dead or had never been born.

Now that the government has taken a decision to decriminalise suicide in India by effacing Section 309 IPC, proper laws should be established for euthanasia as well. People who reach such a stage in their life where they cannot lead a good, healthy & dignified life without being a burden on anyone seek right to die with dignity, should be allowed the same. The positives that go with euthanasia are the patient is relieved of the pain, even family members who suffer emotionally due to pain of patient feel good and biggest benefit would be resources used for such a patient can be used for somebody else who has better chance of recovery.

At the same time the fact that legalisation of euthanasia can lead to many misuses, cannot be denied. If euthanasia is granted as a right doctors and family members will start applying it to disabled, depressed, mentally ill etc. It may also happen it starts with voluntary and involuntary euthanasia may be included in it and above all religious community may not recognise it at all. So, before arriving at any conclusion it would be appropriate to look at the positive & negative effects of euthanasia in the long run before making it a concrete law.

Therefore it is essential that when permitting euthanasia restricted parameters should be laid down and it should be scrutinised under the supervision of an expert panel belonging to different disciplines and there should be an open discussion before allowing its.Most of the people of the Indian society are against euthanasia because of lack of awareness of euthanasia especially passive euthanasia which is fit for society and practical in certain cases. In India, it is a victory for passive euthanasia, but it is only a first milestone not the last. There are many things to be carried out so that modern developed medical technology cannot play with the human life and human feelings. The most important step will be when we will be able to make aware our society that passive euthanasia is not general right to die or attempt to suicide. Indian history has witnessed that we have loved both life as well as death because death is a bigger truth than life.

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TRENDS AND PATTERNS OF SAVINGS AND INVESTMENT IN INDIA: AN EMPIRICAL STUDY OF INDIA (1951-2012)

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ABSTRACT

This paper provides trends and patterns of gross domestic savings (GDS) and gross domestic investment (GDI) at the sectoral and sub-sectoral levels for India during the period 1951- 2012. This study investigate that Savings and Investment rates have increased consistently in India through the post independent period but investment rate has increased faster than Savings rate. At sectoral level share of the private sector is more than the public sector in the GDS and GDI. At sub sectoral level after the new economic policy the share of financial savings was more than physical savings in total household savings. After the new economic policy, the share of private corporate investment increased in total private investment but household investment decreased.

Keywords: Gross Domestic Savings, Gross Domestic Investment

Jel Classification: E210, E220.

INTRODUCTION

After the great Depression of 1930, the main objective of all the nations of the world is to raise income and employment. After Independence the aim of Indian economy is to increase the level of income and employment. To achieve this aim it is essential to increase economic growth. It is necessary to raise Gross Domestic Product for economic growth which can be achieve to high level of Investment and Savings.

According to Keynes (1936), income depends on employment, means income is function of employment. If employment increases or decreases, income also increases or decreases. Keynes has explained with the help of Effecting demand theory, income and employment is dependent on effective demand. Effective demand is influenced by Consumption expenditure and Investment expenditure. When income increases, consumption expenditure also increases but in the lesser proportion. Thus, there is a gap between income and consumption, which leads to a reduction in level of employment. This gap can be filled up by increasing investment. So investment is important for increasing employment and investment is increased by savings. The central idea of Lewis's (1955) traditional theory was that increasing savings would accelerate growth, while the early Harrod-Domar models specified investment as the key to promoting economic growth. On the other hand, the neoclassical Solow (1970) model argues that the increase in the savings rate boosts steady-state output by more than its direct impact on investment because the induced rise in income raises savings, leading to a further rise in investment.

Saving and investment are two key macro variables with micro foundations, which can play a significant role in economic growth, inflation stability and promotion of employment. National savings are critically important to help maintain a higher level of investment, which is a key determinant for economic uplift. Therefore, the analysis of saving investment behavior for policy implications is necessary.

DATA SOURCE

The analyses have included gross domestic savings (GDS) and gross domestic investment (GDI) at the sectoral and sub-sectoral levels. Gross domestic savings (GDS) and gross domestic investment (GDI) at the sectoral and sub-sectoral levels are analysed by using rate of gross domestic savings (GDS/GDP) and gross domestic investment (GDI/GDP). The HAND BOOK OF INDIA (RBI) 2012-13 gives data on GDP, GDS and GDI at the sectoral and sub-sectoral level of the economy.

COMPARATIVE ANALYSIS OF SAVINGS RATE AND INVESTMENT RATE

There has been a consistent increase in saving and investment rates in India through the post independent period. The gross domestic saving rate increased from about 10 per cent in the early 1950s to about 19 per cent in the early 1990s, and then after new economic policy it increased above 30 per cent. The investment rate increased from about 11 per cent in the early 1950s to 20 percent in the early 1990s, and then after new economic policy it increased above 31 per cent.

The coefficient of variation is over the period 1951-2011 was 38.19% for the saving rate and 36.37% for the investment rate. It indicates that the saving rate was more volatile than investment rate over the period of time.

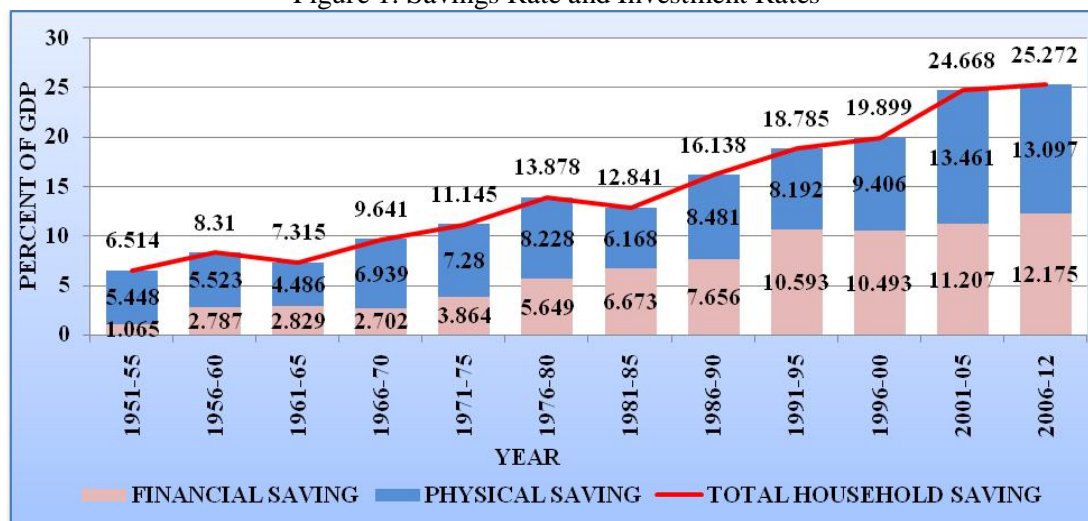Figure 1: Savings Rate and Investment Rates

Table 1: Comparative analysis of Savings Rate and Investment Rate for various time periods

YEAR	AVERAGE SAVINGS RATE	AVERAGE INVESTMENT RATE
1951-1960	10.27	11.20
1961-1970	12.70	14.41
1971-1980	17.33	16.87
1981-1990	18.58	20.03
1991-2000	22.99	24.02
2000-2012	30.93	31.21

Source: Calculated by researcher from Handbook of RBI, 2013-14

Table no1 highlights the comparative analysis of average savings rate and average Investment rate for various periods. It can be easily seen from the above table that there a steady rise in the average investment rate and the average savings rate during the overall time of period.

In 1951-1960, the rate of savings and rate of investment were estimated to be around 10.27 and 11.20 respectively. The rate of investment rose to 14.41 per cent in 1961-1970 as against the rate of savings was 12.70 per cent in 1961-1970. The gap had to be filled in by foreign capital. The performance of the third decade was still better, since the rate of savings was higher than the rate of investment in the year 1971- 1980, after 1980, it again fell below the rate of investment. In 1981-1990, the rate of investment was 20.03 per cent while the rate of savings stood at 18.58.

After the new economic policy (1991), there was an increase in both the rates. The savings rate was 22.99 per cent in 1991-2000 and 30.93 in 2001-2012. In this year the rate of investment was 24.02 per cent and 31.21 per cent of GDP respectively. This is depicted in the figure 2

Figure 2: Savings Rate and Investment Rate for various time periods
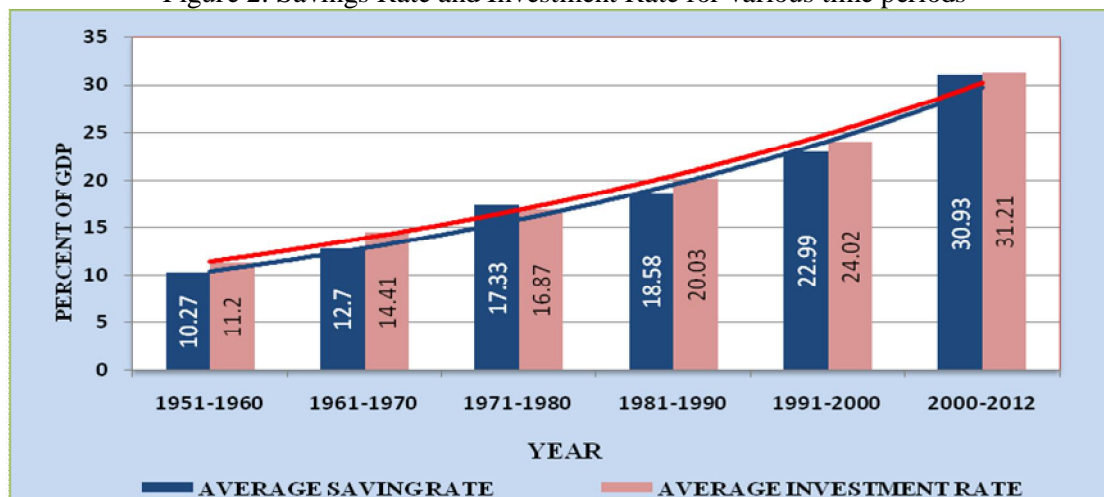
GROSS DOMESTIC SAVINGS AND ITS COMPONANT

This section is providing trends and patterns of gross domestic savings and its components in India during the study period.

Table 2: Gross Domestic Savings and its Components as a percentage of GDP, 1951-2012

Year	GDS	Private	Public
1951-55	9.6	7.5	2.1
1956-60	11.7	9.4	2.1
1961-65	12.9	9.0	3.5
1966-70	14.2	10.9	2.9
1971-75	16.6	12.8	3.4
1976-80	21.0	15.4	5.0
1981-85	19.3	14.5	4.2
1986-90	21.6	18.2	2.9
1991-95	24.3	22.1	1.9
1996-00	25.9	24.6	1.1
2001-05	29.5	29.46	0.04
2006-12	36.4	33.9	2.2

Source: Calculated by researcher from Handbook of RBI, 2013-14

It can be observed from the table 2 that the share of the private savings is more than the public savings in the total gross domestic savings in India over the entire time period. The private savings rate increased from 7.5 per cent in 1951-1955 to 18.2 per cent in 1986-1990. After the new economic policy it increased from 22.1 per cent in 1991-1995 to 33.9 per cent in 2006-2012. The private savings rate increased faster after the new economic policy. This is also depicted in the figure 3.

Figure 3: Gross Domestic Savings and its Components as a percentage of GDP, 1951-2012
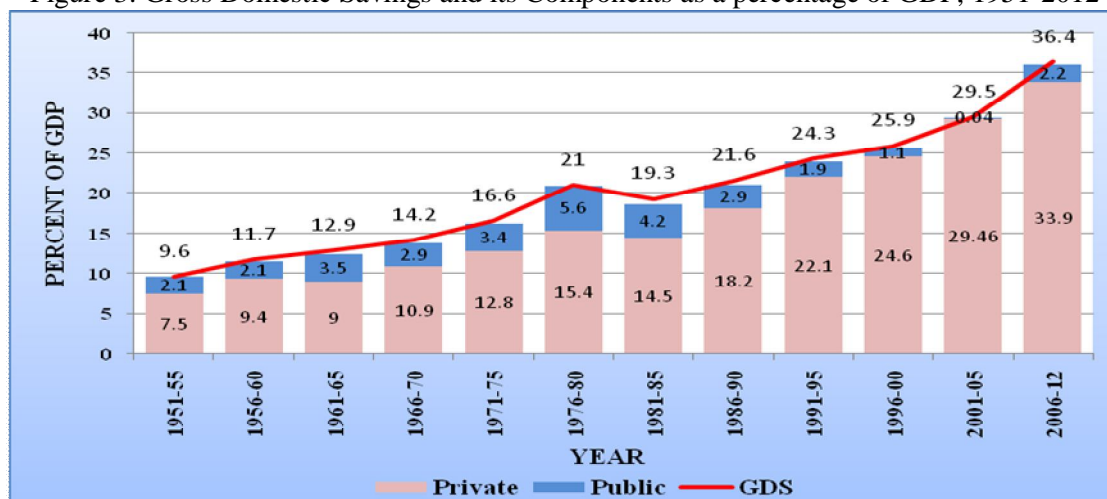
4.1: PRIVATE SAVINGS AND ITS COMPONENTS AS A PERCENTAGE OF GDP

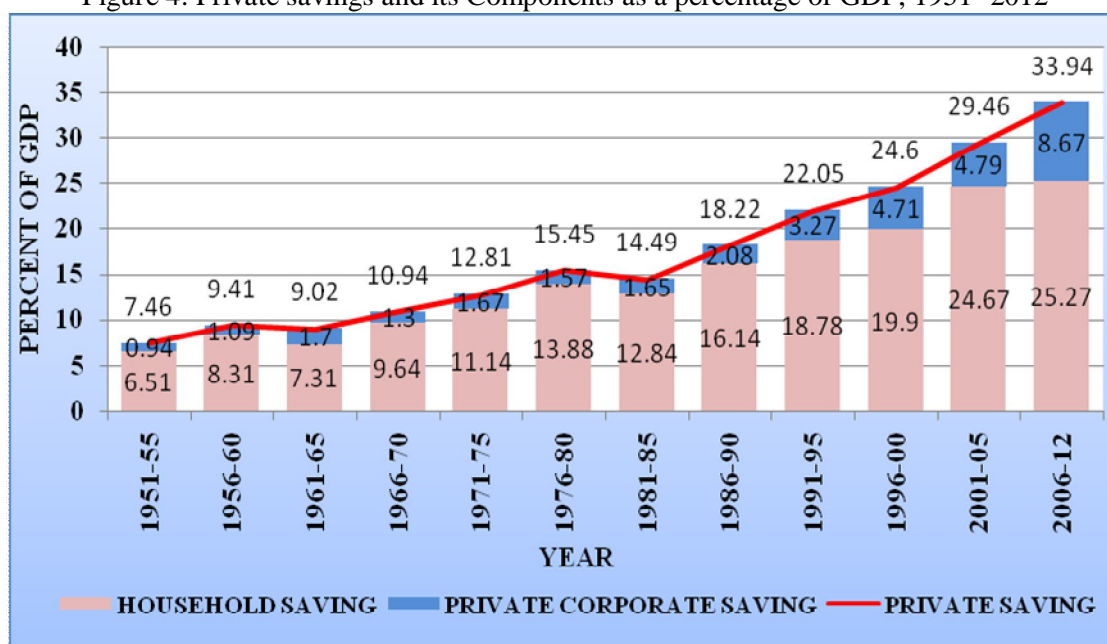Table 3: Private savings and its Components as a percentage of GDP, 1951-2012

| YEAR	PRIVATE SAVINGS	HOUSEHOLD SAVINGS	PRIVATE CORPORATE SAVINGS
1951-55	7.46	6.51	0.94
1956-60	9.41	8.31	1.09
1961-65	9.02	7.31	1.70
1966-70	10.94	9.64	1.30
1971-75	12.81	11.14	1.67
1976-80	15.45	13.88	1.57
1981-85	14.49	12.84	1.65

1986-90	18.22	16.14	2.08
1991-95	22.05	18.78	3.27
1996-00	24.60	19.90	4.71
2001-05	29.46	24.67	4.79
2006-12	33.94	25.27	8.67

Source: Calculated by researcher from Handbook of RBI, 2013-14

It can be seen from the table 3 the household savings was most important component in total private savings. Its share in total private savings was 6.51 in 1951-1956, and then increased to 25.27 percent in 2006-2012. The share of private corporate savings in total private savings was increased from 0.94 percent in 1951-1956 to 8.67 percent in 2006-2012. Is depicted in the figure 4.

Figure 4: Private savings and its Components as a percentage of GDP, 1951- 2012

4.2 HOUSEHOLD SAVINGS AND ITS COMPONENTS AS A PERCENTAGE OF GDP, 1951-2012

Table 4: Household saving and its Components as a percentage of GDP, 1951-2012

YEAR	FINANCIAL SAVINGS	PHYSICAL SAVINGS	TOTAL HOUSEHOLD SAVINGS
1951-55	1.065	5.448	6.514
1956-60	2.787	5.523	8.310
1961-65	2.829	4.486	7.315
1966-70	2.702	6.939	9.641
1971-75	3.864	7.280	11.145
1976-80	5.649	8.228	13.878
1981-85	6.673	6.168	12.841
1986-90	7.656	8.481	16.138
1991-95	10.593	8.192	18.785
1996-00	10.493	9.406	19.899
2001-05	11.207	13.461	24.668
2006-12	12.175	13.097	25.272

Source: Calculated by researcher from Handbook of RBI, 2013-14

Table 4 provides a share of financial saving and physical saving in household saving. It can be concluded from the table that the share of financial saving was less than physical saving till 1990. After the new economic policy the share of financial saving was more than physical savings. Financial saving increased faster than physical saving. The average sharing of financial saving is more than the physical savings.

Figure 5: Household saving and its Components as a percentage of GDP
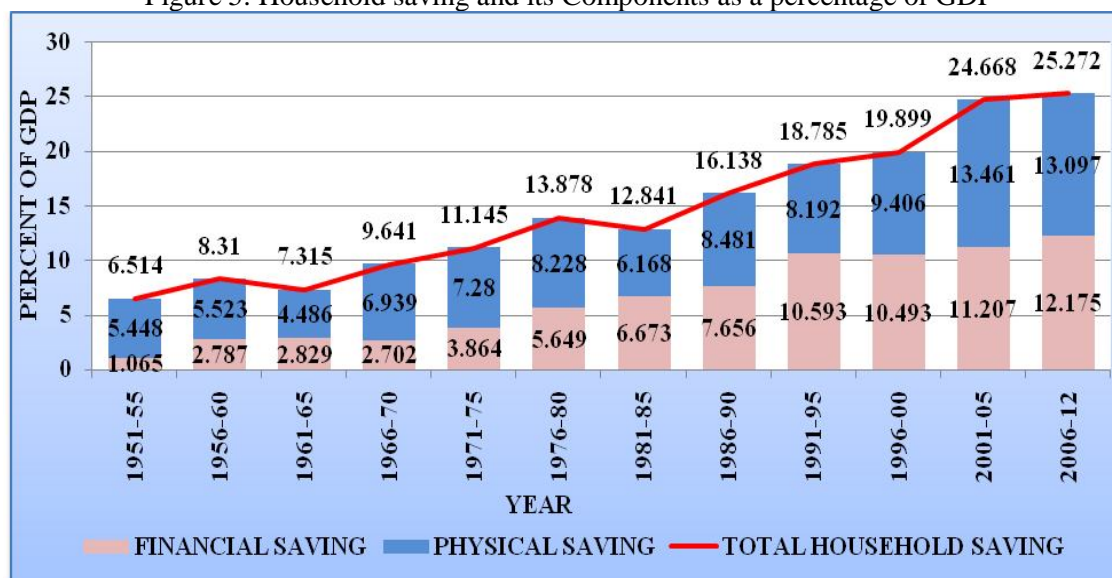
GROSS DOMESTIC INVESTMENT AND ITS COMPONANT

This section is providing trends and patterns of gross domestic Investment and its components in India during the study period.
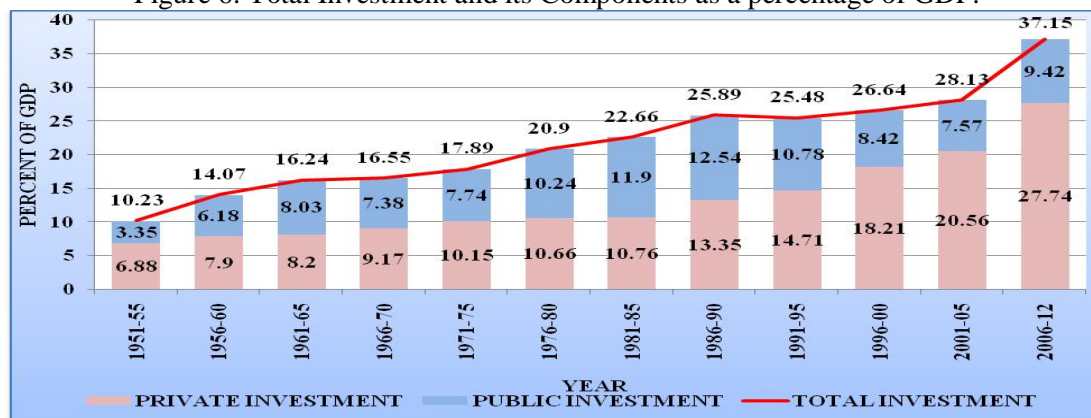
Table 5: Total Investment and its Components as a percentage of GDP, 1951-2012

YEAR	PRIVATE INVESTMENT	PUBLIC INVESTMENT	TOTAL INVESTMENT
1951-55	6.88	3.35	10.23
1956-60	7.90	6.18	14.07
1961-65	8.20	8.03	16.24
1966-70	9.17	7.38	16.55
1971-75	10.15	7.74	17.89
1976-80	10.66	10.24	20.90
1981-85	10.76	11.90	22.66
1986-90	13.35	12.54	25.89
1991-95	14.71	10.78	25.48
1996-00	18.21	8.42	26.64
2001-05	20.56	7.57	28.13
2006-12	27.74	9.42	37.15

Source: Calculated by researcher from Handbook of RBI, 2013-14

It can be observed from the Table 5 the total investment increased during the period of economic planning. From the 1951 to 1985, the increase in total investment rate was driven by increase in public investment, The public investment rate improved from 3.35 per cent in the early 1950s to 11.90 per cent in the early 1980s, and to a doubling of the total investment rate from 10.23 per cent in 1951-55 to 22.66 percent in1981-85. However, this rise in an investment rate from 1980 to onwards can be due to increase in private investment, in study decline in public investment (see figure 6). The public investment rate fell by two percent to 9.42 per cent in 2006-12, while the private saving rate increased by 16.98 per cent point to 27.74 per cent in the same period. The net effect of this on total investment rate was an overall increase of 14.50 percent points to 37.15 per cent in 2006-12.

Figure 6: Total Investment and its Components as a percentage of GDP.

5.1 PRIVATE INVESTMENT AND ITS COMPONENTS AS A PERCENTAGE OF GDP, 1951-2012

The increase in private investment in the 1980s and 1990s has mostly come from a rapid rise in private corporate investment, particularly in the 1990s. The share of corporate investment in total private investment, which varied in the range of 20 to 30 percent during the first three decades of the post independence period, increased to about 45 percent in 1990s. After the new economic policy (1991), the share of private corporate investment increased in private investment but household investment decreased. From the table 6 the share of private corporate investment in private investment from 33.85 percent in 1990s to 52.52 percent in 2012s, and the share of household investment in private investment from 66.15 percent in 1990s to 47.48 percent in 2010s.

Table 6: Private Investment and its Components as a percentage of GDP, 1951-2012

Private Investment and its Components as a percentage of GDP				Components of Private Investment (percentage share)	
YEAR	HOUSEHOLD	PRIVATE CORPORATE	PRIVATE INVESTMENT	HOUSEHOLD	PRIVATE CORPORATE
1951-55	5.45	1.43	6.88	80.86	19.14
1956-60	5.52	2.37	7.90	70.09	29.91
1961-65	4.49	3.72	8.20	54.70	45.30
1966-70	6.94	2.23	9.17	75.36	24.64
1971-75	7.28	2.87	10.15	71.77	28.23
1976-80	8.23	2.43	10.66	77.23	22.77
1981-85	6.17	4.60	10.76	57.91	42.09
1986-90	8.48	4.87	13.35	63.11	36.89
1991-95	8.19	6.52	14.71	55.38	44.62
1996-00	9.41	8.81	18.21	66.15	33.85
2001-05	13.46	7.10	20.56	65.50	34.50
2006-12	13.10	14.64	27.74	47.48	52.52

Source: Calculated by researcher from Handbook of RBI, 2013-14

Figure 7: Private Investment and its Components as a percentage of GDP.
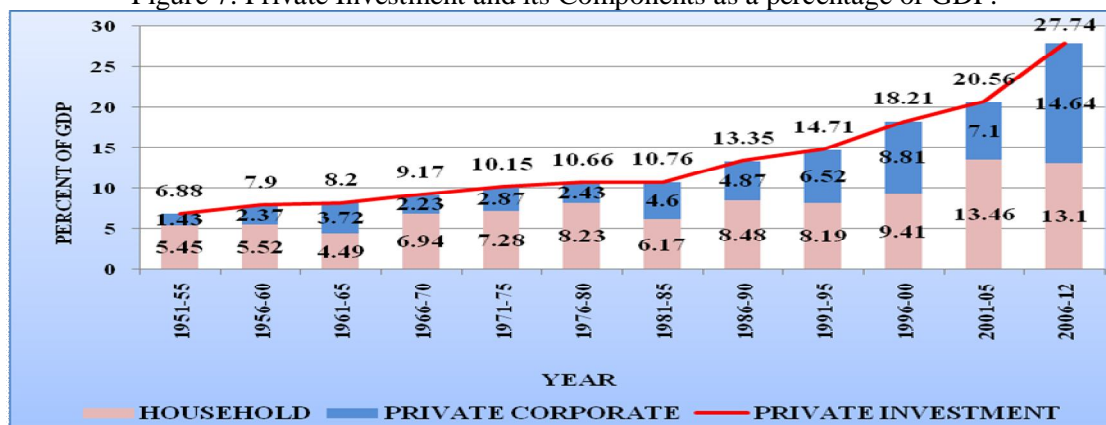
CONCLUSION

1. Savings and Investment rates have increase consistently in India through the post independent period but investment rate has increased faster than Savings rate.

2. Savings rate was more volatile than investment rate over the period 1951 to 2012.

3. The share of the private savings is more than the public savings in the total gross domestic savings in India over the time period.

4. Before the new economic policy the share of physical savings was more than financial savings in total household savings but after the new economic policy the share of financial savings was more than physical savings.

5. The share of the private Investment is more than the public Investment in the total Investment in India over the time period.

6. After the new economic policy (1991), the share of private corporate investment increased in total private investment but household investment decreased.

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