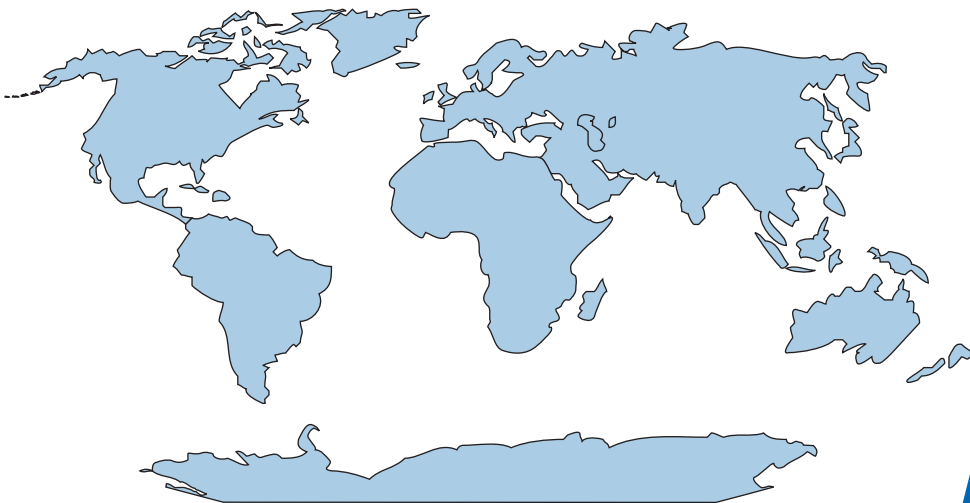


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**EXPLORING THE LIFE EXPERIENCES OF WHEELCHAIR USER STUDENTS IN ADDIS ABABA UNIVERSITY: A GROUNDED THEORY PERSPECTIVE**

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**ABSTRACT**

*This study was aimed at investigating the life experiences of wheelchair user students in Addis Ababa University and to generate a theoretical model about their life experiences in a university. Wheelchair users have unique problems among students with disabilities due to the presence of physical barriers in university environments and some negative attitudinal barriers. In this study, the university life experience of four students with disabilities, who used a wheelchair to attend university education, was explored using semi-structured interviews. The interview sessions were analyzed in stages as suggested for grounded theory research. Accordingly, the study identified the core category or phenomenon (whole experience in the university) interacting with five major categories (1) Motivating factors for university education; (2) Knowledge level of university community; (3) Responsibility of the university; (4) Accessibility features of the university; and (5) Personal support systems. It is indicated that most places in the university are inaccessible for the wheelchair user students. Thus, much attention should be given by Addis Ababa University to alleviate the inaccessibility nature of its campuses. This is possible by making some modifications to the older buildings and designing the new ones in such a way that they can accommodate the need of the wheelchair users. Further research is also needed to better understand the factors in a university environment that prevent wheelchair user students from succeeding.*

*Key Words: Wheelchair users, Grounded theory research*

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**INTRODUCTION**

Estimates of the incidence of disability in Ethiopia vary widely. According to the report of the Housing and Population Census of the Ethiopian Government (CSA, 1998), the number of persons with disabilities constitutes 1.9% of the total population. On the other hand, a baseline survey in 1995 gave a higher estimate of 2.95% (Tirussew et al., 1995). Japan International Cooperation Agency (2002) and ILO (2003) also estimated that 7.6%, or five million people were disabled. Moreover, Federal HIV/AIDS Prevention and Control Office (2010) estimated that there are 7 million people living with some kind of disability in Ethiopia, 10% of the total population. Yet, it is believed that the number of persons with disabilities in Ethiopia is likely to be underestimated due to inadequate definitions or what constitutes disability and which disabilities should be included in the count. It is also likely that parents are not willing to disclose that they have a child or family member with a disability because of stigma (Tirussew, 2005). The actual number of people with disabilities in Ethiopia is, therefore, likely to be much higher.

It is obvious that disabled people in developing countries live below the poverty line, and often lack access to key areas of development, including health, education, training and employment. Thus, their problems can be alleviated only if there is a commitment from the highest levels in promoting equality of opportunity and inclusion (ILO, 2011). According to ILO's report, this can be evidenced by the number of disabled undergraduate students in AAU which has reached 450. This figure reveals that in Ethiopia the number of students with disabilities enrolled in higher institution is increasing. An increase in enrolment is a necessary condition, but not a sufficient condition for disabled people to be successful in higher institution. They must also make some kinds of adjustments. In this regard, Allison (1994) pointed out that on entering college, students with disabilities must make two major adjustments: first, adapting those things every student faces, such as leaving the comfort of home, living on their own, managing their finances and having to compete with other students; and second, dealing with the disability in a college environment. Research on disabled students in general and that of wheel chair users in particular is scanty in Ethiopia. Thus, this study was aimed at investigating the life experiences of wheelchair users in Addis Ababa University and to generate a theoretical model about their life experiences in a university.

**MATERIALS AND METHODS****Participants**

There were nine students with physical disabilities requiring them to use a wheelchair in Addis Ababa University in the year 2014/15; of this total population four students were participated in the study. The data gathered related directly to students' real life experience. Participants were selected based on the criteria that they all were wheelchair users for daily activities and attending university education.

## DATA COLLECTION

The following interview guides with open-ended questions were used for data collection: Could you please describe what it means to attend university in a wheelchair? ; Being a wheelchair user, what would you consider a challenging experience in university? ; Being a wheelchair user, what would you consider a satisfactory experience in a university? These were the major questions explored by the researcher. Other questions also discussed the following issues: accessibility features of their university; disability services; knowledge level of the university community about wheelchair users; their interactions with different people in the university; and their personal support systems.

## DATA ANALYSIS

Data analysis was undertaken in stages as Creswell (2007) suggested for grounded theory research. The stages include: (1) open coding, in which categories of information were formed; (2) axial coding, in which one open coding category was selected and placed at the center as a core category or phenomenon and then relates all other categories to it; and (3) selective coding, in which a theory was written based on the interrelationship of the categories from axial coding.

## RESULTS

The purpose of this study was to investigate the life experience of wheelchair users in Addis Ababa University and to generate a theoretical model about their life experiences in a university. Consequently, five major categories and one core category or phenomenon were emerged from the data analysis, which finally resulted in the development of the model for wheelchair users in the university. The major categories include: (1) motivating factors for university education; (2) knowledge level of university community; (3) responsibility of the university; (4) accessibility features of the university; and (5) personal support systems. 'Whole experience in the university' is the core category or phenomenon connecting all the five major categories describing students' experiences in the university.

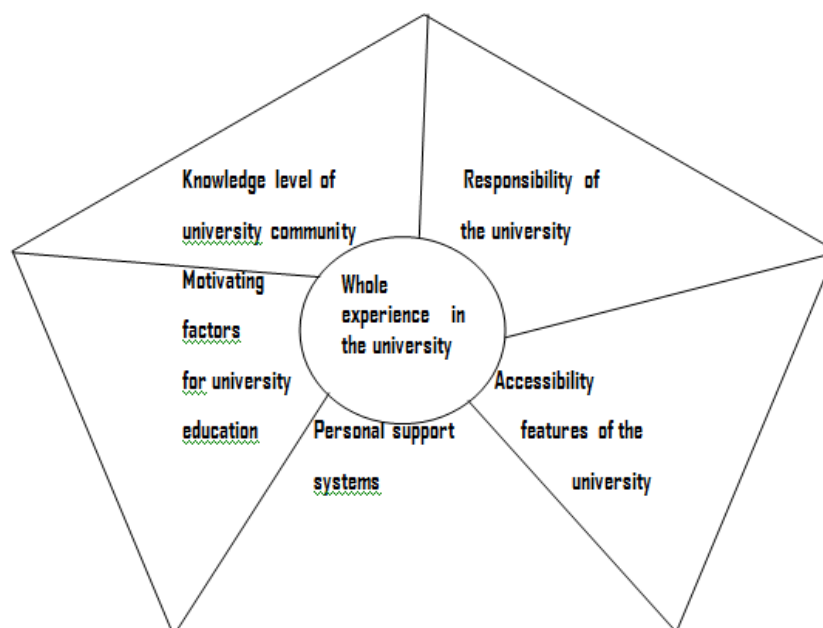


Fig 1: Theoretical model for wheelchair users in AAU

## MOTIVATING FACTORS FOR UNIVERSITY EDUCATION

The participants described what motivates them to join the university as follows: (1) family pressure; (2) perception of university education as a means to get recognition and respect from the society; (3) to get the job and to ensure self supporting; (4) to break the traditional belief of the society that people with disability can't contribute anything to the society and to show that individuals with disabilities in general and wheelchair users in particular have the capabilities to do as much as non-disabled people can do and that physical disabilities need not be a limiting factor in their contribution to society; and (5) to get public view and to make their voice heard. Regarding the fifth motivating factor one participant described:

*In Ethiopia wheelchair users start to get the chance for university education only recently than people with visual impairment. Thus, people with visual impairment have better access to media and the better their voice is heard by the government bodies than do the wheelchair users.*

These participants believe that still the society underestimates people with disabilities, specially the wheelchair users, which motivated them to set their goals on personal achievement. To be successful and contribute something to their society, they want to get university education and become an expert in a particular field. In general, the participants believed that a university education would take them wherever they want to go in life, towards a better job, economic success, proving their accomplishments, reducing misconceptions about individuals with disabilities, and ultimately, self-achievement.

### KNOWLEDGE LEVEL OF UNIVERSITY COMMUNITY

The university community identified by the participants include: (1) teaching staff; (2) students; and (3) administration workers. Participants described that there is individual differences among the teaching staff in understanding and helping the wheelchair users; some were sensitive and some were uncaring or irresponsible. Regarding the irresponsible teaching staff one participant who is only recently disabled and start to use the wheelchair described:

*I was a student without disability when I joined this university. I encountered the problem here in the university. It is strange for me to be on a wheelchair and I am also on medication. Thus, sometimes I miss classes and tests; other times I am going to class being late. Some teachers are unfriendly and do not show any willingness to understand me and to help me.*

Participants believe that interaction with the teaching staff with positive attitude towards them increases their satisfaction with the university and strengthen their student life experiences.

Moreover, participants described their interactions with administration workers (cafe workers, security personals, proctors, library workers) were generally friendly. Their interactions with non-disabled students were open and friendly. But when coming to the help they were getting from the non-disabled students to push their wheelchair, they said it 'is situational'. The help the non-disabled students were rendering to the wheelchair users is situational in the sense that during the seasons of tests and exams everybody is running for his/her own personal achievement without considering the wheelchair users. At this time, asking for and receiving help is more problematic.

Participants considered interaction among the university community is an integral part of their university life. Although there were varying degrees of awareness and social integrations, their interaction with the university community was found to be positive. They were ready to cope with the challenges and to do whatever it takes to complete their education and move on in to the broader society.

### RESPONSIBILITY OF THE UNIVERSITY

Participants believed that their university should do many things for them to accommodate their specific disability-related needs. They indicated that their university had a lot of limitations. To mention few, among the many buildings in AAU only the NCR first floor is accessible, no recreation facilities for the wheelchair users, no playing fields for the wheelchair users to engage in different kinds of games, no laboratories and libraries accessible for them. One participant described:

*I was a natural science student. I was assigned to Arat kilo campus to the department of mathematics. But one of the professors in the department advised me to join Sidist kilo for the buildings in Arat kilo are not accessible. Accordingly, I joined Sidist kilo and assigned to the department of Amharic. But for I had no interest and competence in social sciences, I scored a low grade (1.50 GPA)*

There is a computer facility for all the disabled students at the ground floor of Mandela building. Besides, the female participant said that she has accessible dormitory which has facilities like TV. Generally, the participants were optimistic about the future of the AAU for wheelchair users. They expect that by taking adequate actions to accommodate their specific disability needs, the university could help integrate more wheelchair users in to its system.

### ACCESSIBILITY FEATURES OF THE UNIVERSITY

The major problem of the wheelchair users is mobility. Mobility is an issue of whether a student is physically able to climb stairs or walk across campus. Buildings in the university whether old or the newly built are inaccessible, for there is no lifts and elevators. Thus, there are inaccessible classrooms, laboratories, libraries, etc. Concerning this one participant said:

*Our question is not political question but it is the question of human right. We have been given the right to learn but the environment is not made conducive to us to realize our potential to the maximum. The old buildings need to be slightly modified to be accessible for us and the new ones should be built so that wheelchair users can get access.*



The distance between buildings and the amount of time it would take to travel between classes and dormitories is another challenge to the wheelchair users. One participant described:

*It is difficult to access in the campus. I can't use my time as I have planned. For example, if I want to go to library, I have to wait for someone who pushes my wheelchair. Therefore, I am forced to do what I should do only when it is convenient for other students.*

Generally, considering the inaccessibility nature of the university minimize the challenges and the time and energy the wheelchair users' wastes. This is possible by making some modifications to the older buildings and designing the new ones in such a way that they can accommodate the need of the wheelchair users.

### PERSONAL SUPPORT SYSTEM

Among the four participants, three of them had a family as a personal support network assisting them with their school-related needs and academic goals. All participants had a support network from the university. They are earning 120 birr as a pocket money every month. Besides the financial support, three participants are receiving emotional support from their family. Even one participant is living in the university with her younger brother who is serving her as personal care attendant for specific physical (assistance with self care) and school related needs (caring books, photocopying). Family emerged as the foremost support network for the three participants. But one participant said:

*I do not have a family. My father and my mother were died, and also two of my brothers. I have attended secondary school by being assisted by the school teachers. Now, I don't have any personal support network except for 120 birr I am earning from the university as a pocket money.*

The support the wheelchair users used to obtain from their friends include: academic (note taking, photocopying, and informational), social and emotional help. They also obtained physical support from their friends to access in the campus.

### WHOLE EXPERIENCE IN THE UNIVERSITY

Whole experience in the university is a core category or phenomenon, which appears central to the study, interweaving all the major categories in the study. All the participants described that a satisfactory university life experience goes beyond the academics. They consider this experience in the university to be a process and their degree to be output. According to these participants, GPA is not the only indicator of success in the university. One participant described:

*Grade is very important. But it is not indicating your all success in the university. It is only part of your success. To be satisfied in the university requires being involved in all activities in the university.*

Involvement in disability services, teacher-student interactions, peer interactions, and social life in the university have all been mentioned by these students to be important for their success in the university.

### DISCUSSION

The findings of the study showed that wheelchair users still face physical and attitudinal barriers in the university. While accessibility to different facilities is equally important to wheelchair user students in the same way it is important to their counterparts, physical inaccessibility to most buildings and facilities of the university were among the most difficult challenges they face in the university. Supporting this view, Bowman and Marzouk (1990) revealed that factors such as social life in college, adjustment to disability, services available to students with disabilities, teacher-student interactions and peer interactions were all considered extremely important to satisfactory university life. Similarly, Low (1996) explained that achieving academic success, making friends, expressing their sexuality, developing romantic relationships, etc., are the same concerns which occupy students without disabilities.

Participants believed that the relationship with the university is not limited to education but also to preparation for life beyond the classroom. Building confidence and the necessary social skills of students with disabilities is of equal priority to the necessary academic skills that prepare people to meet future challenges (Collins, 1995). The result of the present study support this claim, as the participants did not consider grade to be the sole predictor of their success and satisfaction in the university.

Generally, earlier studies revealed that there is a direct relationship between school facilities and student satisfaction and student adjustment. The better the facilities and accommodation, the more satisfied the students (Allison, 1994). The result of this study indicated that physical accessibility to most buildings and facilities of the university are difficult to overcome, which inevitably made wheelchair users to feel dissatisfied in university life.

## CONCLUSION

The purpose of this study was to investigate the life experience of wheelchair users in Addis Ababa University, and to generate a theoretical model about their life experiences in a university. Hence, the study identified the core category or phenomenon (whole experience in the university) interacting with five major categories (1) Motivating factors for university education; (2) Knowledge level of university community; (3) Responsibility of the university; (4) Accessibility features of the university; and (5) Personal support systems.

The data obtained describe university life from the view of the participants. The findings of the study revealed that all wheelchair users perceive life in the university as very difficult for it involves interactions with various human and non-human elements. Physical inaccessibility to most buildings and facilities of the university were among the most difficult challenges the wheelchair users face in the university, which they described as barriers to their satisfaction. Hence, wheelchair users did not consider grade to be the sole predictor of their success and satisfaction in the university.

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## LAND USE AND LAND COVER DYNAMICS IN RELATION TO SLOPE AND TYPES OF LANDSCAPE: A CASE STUDY OF MANIPUR

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### ABSTRACT

*This paper investigates the relationship between Land use and land cover changes and its relation to slope gradient where all land use types can be found at every gradient from valley to hills in the study area. The changes in the landscape were analyzed using Landsat Multi-Spectral Scanner (MSS) and Landsat- 8 data during the period 2002–2014. ASTER DEM data is used for slope analysis. Supervised classification technique using maximum likelihood algorithm was adopted for land use/land-cover change analyses. The land use land cover data were classified into seven types, forest (dense, moderate and open), agricultural land, water, and fallow land. The area of forest being augmented with the increase in slope gradient, while the area of the other land use types (agricultural land, and built-up) declined. Degradational activities, namely Jhum cultivation, compounded by increasing population pressure and demands for agriculture land are the prime drivers in addition to other proximate drivers of deforestation. The accuracy was checked using GPS and Google map and accuracy assessment was done using kappa statistics.*

*Key words: Land use land cover change, Deforestation, Mountain topography, Shifting cultivation.*

### INTRODUCTION

The growing population and increasing socio-economic necessities creates a pressure on land use/land cover which results in unplanned and uncontrolled changes in LULC (Seto et al., 2002). This changes impact on water balance (Schilling et al., 2008), land and air resources, ecosystem processes and function (Lambin et al., 2000; Polasky et al., 2011) and climate (Hale et al., 2006); biodiversity (Myers et al., 2000; Gibson et al. 2011; Bouget et al., 2012), soil degradation (Trimble & Crosson, 2000; Biro et al., 2013; Leh et al., 2013) and increasing the amount of carbon released to the atmosphere (Baccini et al., 2012). Land cover change plays a pivotal role in regional social and economic development and global environmental changes (Xiuwan, 2002). As an interface between natural conditions and anthropogenic influence, and the most important socioeconomic driving forces of both global and local environmental change, change in land use and land cover is one of the main factors that man influences the environment and it play a major role in the dynamics and changes of landscapes (Krausmann et al., 2003; Turner et al., 1993; Vitousek, 1992; Vitousek et al., 1997).

### OBJECTIVES

- (1) To quantify changes in land use/land cover from 2002 to 2014.
- (2) To identify the influence of slope on land use distribution and transformation.

### MATERIALS AND METHODOLOGY

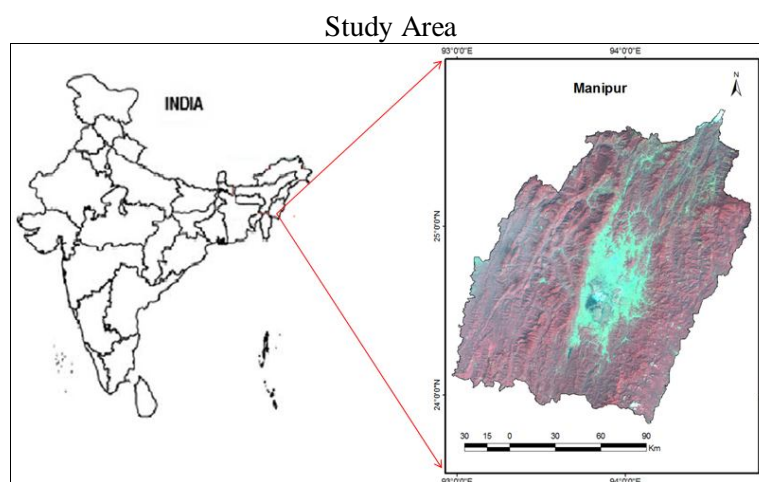


Fig.1 Location of the study area (Manipur)

According to the India State of Forest Report (SFR) 2015, Manipur has more than 76 per cent forest cover. The state is well known for its unique ecology and rich biodiversity and is a part of the vulnerable Himalayan ecosystem (ICIMOD, 2010). The inhabitants have high natural resource dependency where more than 33 tribal

groups who have natural resource intensive life style and are more vulnerable to climate change (SAPCC, 2013). The state is susceptible to anthropogenic greenhouse gas (GHG) emissions (SAPCC, 2013). If the ecosystem consideration is mountainous, then it becomes more difficult to understand the impact of climate change due to its complexity in topography and orographic features, (ICIMOD, 2010). In a state like Manipur, where about 90% of the total area is in the hills and where forest is the largest land use pattern, taking up large scale afforestation needs no emphasis. Increasing population and decreasing land productivity, relatively higher dependence on natural resources (e.g. forests) are also constraints for the region's environmental sustainability (INCCA, 2010). According to various reports of FSI and NRSA on an average, the jhum are increased from 46.49% (1991-92) to 69 % (2001-02) in the state. The main districts which are largely affected by jhum are Senapati, Churachandpur, Ukhrul, Tamenglong and Chandel Districts.

Out of total geographical area 77% land was occupied by steep slope (above 73°) where on the other hand only 8% having the gentle slope (below 21°) which is mostly in central valley and Jiribum subdivision. The slope gradient influences water infiltration, runoff and soil erosion and sedimentation processes, and these affect soil genesis and vegetation development (Butler et al., 1986). The dynamic relationship between the slope gradient and LULC emphasizes the need for sustainable land resource management to improve the food security of the local community. The aim of this study, therefore, was to determine spatial and temporal the changes in landuse landcover and to estimate the topographical effect using slope gradient on land use/cover spatial variation.

### DATA USED

Multi-temporal sets of landsat data of 30m spatial resolution were collected to study the changes in the land use land cover from 2002 to 2014. Supervised classification technique using maximum likelihood classifier was used for landuse classification. The land use was classified into seven categories: water bodies, open forest, dense forest, shrub, Agricultural land, fallow land and built-up area. Limited field check was carried out to improve the accuracy of land use/ land cover map maps.

A slope map was obtained from ASTER DEM data by surface analysis operation (ArcGIS 10.2), and the slope was reclassified into five categories: (<23°), intermediate (23.1- 47°), (47.1- 64°), (64.1-74°) and (>74).

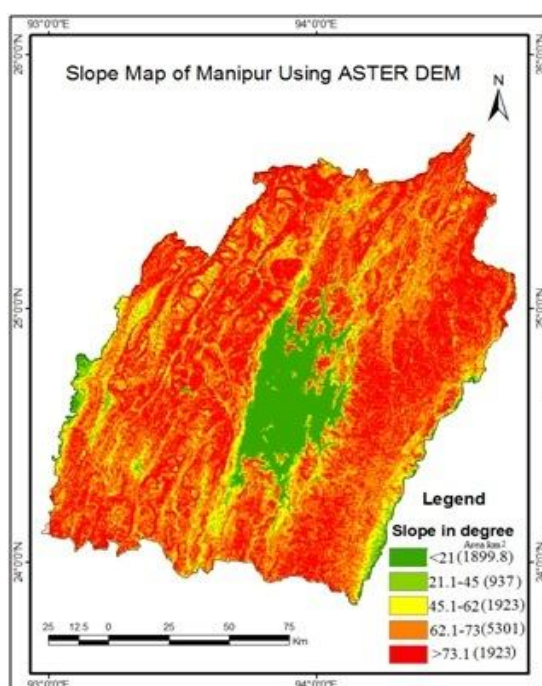


Fig. 2 Slope map of Manipur

**Table 1: Spatial Distribution of Slope**

Sr. No	Slope in Degree	Area (km <sup>2</sup> )	Percentage
1.	Below 21	1899.8	8.5
2.	21.1-45	937.9	4.2
3.	45.1-62	1928.3	8.6
4.	62.1-73	5304.8	23.7
5.	Above 73	12252.77	54.8

## RESULTS AND DISCUSSION

### CHANGE IN LAND USE AND LAND COVER (LULC)

Analysis of 2014 land cover data revealed that open forest was the most dominant land cover type covering 64 % of the study area, followed by dense forest 14 % and shrub 9.3, agricultural land with 9.2 %. There has been a gradual decline in the forest cover in the state from 2002 to 2014 (Table 2). The increasing pressure on forested land can be felt by the decreasing percentage (74%) of dense forest category from 21% in 2002 to 19% in 2009 and 14% in 2014. While on the other hand and increasing built-up and agricultural classes increase to nearly one fourth (25.2%) of the landscape in 2016. The total natural forest cleared between 2002 and 2014 amounts to 65760 ha, which is about 3.6 % of the forest cover that existed in 2002 (Table 2; Fig. 3). Major deforestation took place between 2009 and 2014, destroying about 40083 ha of 2009 total forest cover. Conversely, cultivated land increased from 7% in 2002 to 9.2% in 2014. Though the total expansion of cultivated land from 2002 to 2014 was 40083 ha; shifting cultivation or Jhum farming which is also consider one of the major cause for removal of forest cover has included in Lulc class of shrub and fallow land according to the land cover condition as the land is left open after the Jhumming period. Shrub and fallow land account for 9 % of total geographical area in 2014 which was 7.5% in 2002.

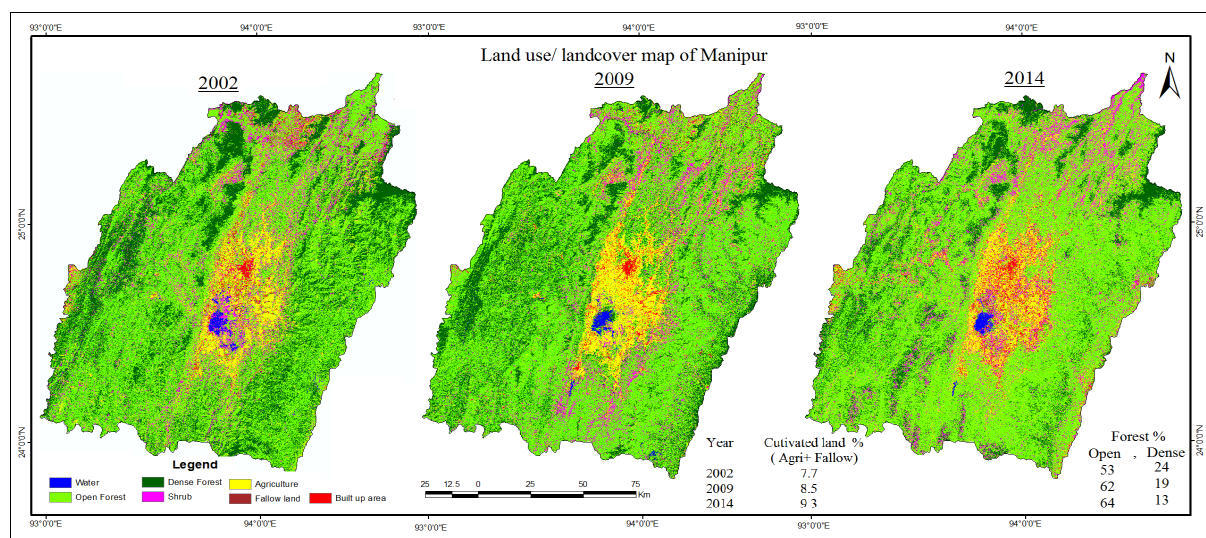


Fig. 3 Landuse land cover map of Manipur 2002-2014

Table 2: Change in area of land use and land cover during 2002-2014

Lu/Lc Class	Area (ha)			Area in Percentage			LULC Change (ha)		
	2002	2009	2014	2002	2009	2014	2002-2009	2009-2014	2002-2014
Water	15482.28	10718.82	11216.13	0.9	0.8	0.8	-	-	-
Open forest	1255350	1340668	1441027	58	62	64	-85318	-100359	-185677
Dense forest	586237.3	475244.4	334800.8	21	19	14	-110992.9	-140444	-251437
Shrub	168664.3	170392.4	209086.1	7.5	8	9.3	1728.1	38693.7	40421.8
Agriculture	154024.4	181643.3	206077	6.9	8.1	9.23	27618.9	24433.7	52052.6
Fallow land	18952.19	10151.82	10814.44	2.3	0.4	0.5	-8800.3	662.6	-8137.7
Built-up	31929.76	42016.32	53067.19	1.4	1	2.3	10086.5	11050.8	21137.4
Total	2232000	2232000	2232000	100	99.8	99.9	-	-	-

Note: '-' negative sign denote decrease in area.

The dominant land use types in the study area were forest and cultivated land (Table 1), which accounted for about 89 % in 2002 to 88 % in 2014 of the entire area. Two main trends existed in land use changes, i.e. the decrease in dense forest, and the increase in builtup land. Dense forest decreased by approximately 1340 km<sup>2</sup>; while cultivated and built-up increased by 588 km<sup>2</sup> and 223 km<sup>2</sup>. The changes in each land use type were the combined effects of two processes: conversion to other types and conversion from other types. For example, the area of open forest converted from other land cover types and open forest converted to other land use types; however, the total change area of open forest (1856.7 km<sup>2</sup>) was less than that of dense forest (-2514.3 km<sup>2</sup>) during the study period. However, dense forest (forest with crown density greater than 50 per cent) accounted for less than twenty per cent and open forest more than 70 of the forest lands in the study area. For the state, dense forest accounted for a meagre 14.19 per cent of the forest land (2014).



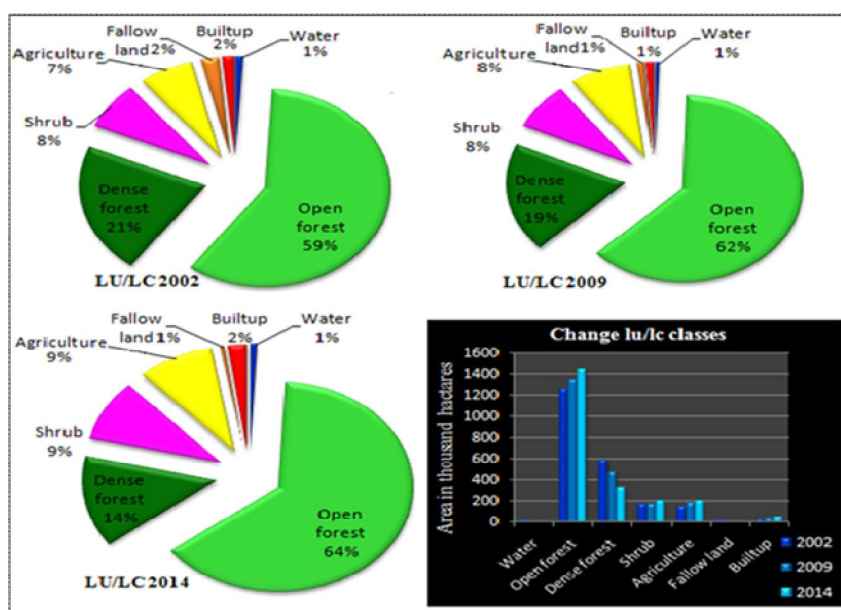


Fig. 4 Spatial distribution of Land use and land cover 2002, 2009 and 2014

## LAND USE AND LAND COVER CHANGES IN RELATION TO SLOPE AND TYPE OF LANDSCAPE

Environmental variables (slope and elevation) constraint the limited expansion of various land use and effect the livelihood and land use decisions. (Trincsi et al., 2014). Topography directly affects forest fragmentation and deforestation (Freitas et al., 2010). Degree of slope was regarded as the major factor influencing soil and water runoff, and it was also the main decisive characteristics for decisions on the reversion of farmland to grassland or woodland (Chen et al., 2001). Degree of slope was also regarded as the main landscape physical parameter influencing on farmers' landuse decisions (Messing et al., 2003).

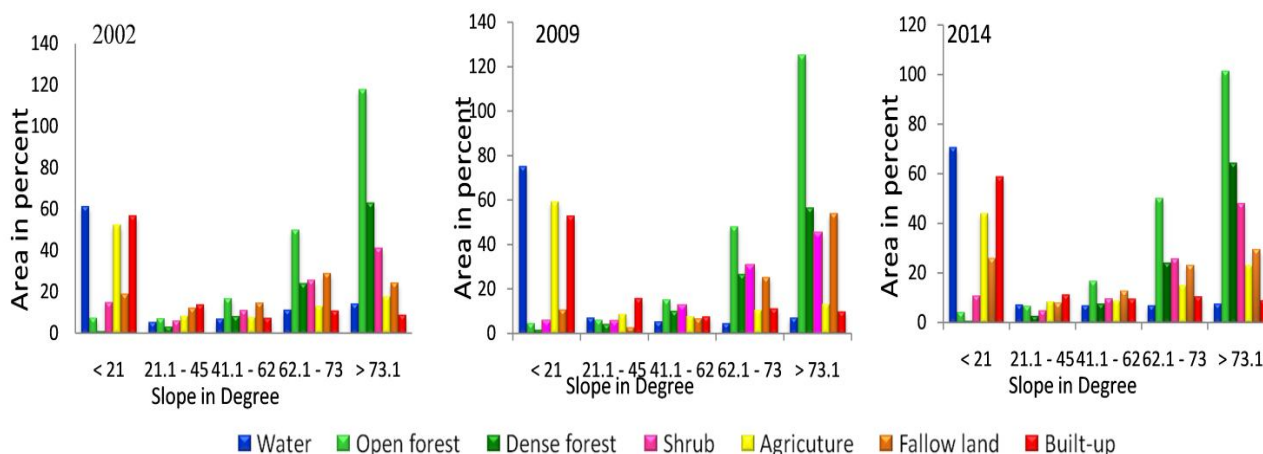


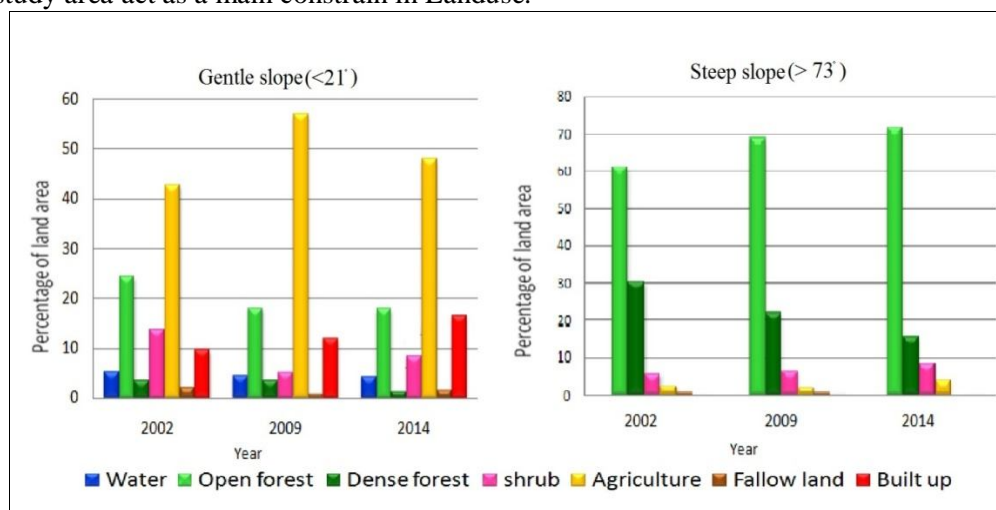
Fig 5. Spatial distribution of Lulc in different Slope categories.

Almost all land use types can be found at every slope gradient from valley to hills in the study area. With the increase of slope degree, the area of forest being augmented as well, while the area of the other land use types (agricultural land, and built-up) declined. Gradually almost the steeper slope is also employed for cultivation under shifting cultivation. Degradational activities, namely shifting cultivation, compounded by increasing population pressure and demands for agriculture land are the prime drivers in addition to other proximate drivers of deforestation. The cultivable area is limited while the population pressure has increased. The valley districts, comprising a tenth of the geographical area of the state, support roughly two-thirds of the population (Census, 2011). Most of the permanent agricultural land is in the Central valley; with more than 55% of the entire agricultural land resources of the study area, even though the hills comprise 90 per cent of the state's total area. There are sharp differences in land use patterns between the valley districts and the hill districts. In the valley, settlements account for more than 55% of their respective areas whereas for the steep slope it accounts for less than two per cent of the area (Fig.5). Forest land for all the hill districts was above 85 per cent of the areas. In valley it is less 10 per cent (2002-2014). Degree of slope observed in this study as discriminating parameters that constrain land use.

**Table 3: Correlation of Slope and LULC type during 2002- 2014**

Year/lulc	Open Forest	Dense Forest	Agriculture	Built-up
2002	0.885	0.891	-0.548	-0.626
2009	0.880	0.921	-0.645	-0.588
2014	0.894	0.888	-0.378	-0.628

The correlation value varies from -1 to +1, where +1 positively correlated and -1 indicates perfect negatively correlated. Dense forest shows high positive correlation followed by open forest whereas Agriculture and built-up having negative values shows, as the slope increases the area under landuse decreases. The steepness of slope in the study area act as a main constrain in Landuse.



**Fig 6 Lulc change in Gentle Slope and Steep Slope**

Degree of slope and the main land use transformation revealed interesting dynamics from 2002 to 2014. There was a distinct relationship between land use and degree of slope during the study period (Fig. 5). Overall, agriculture was the dominant land use type on gentle slopes/valley, followed by open forest and built-up (Fig. 6). While on the steep slopes open forest and dense forest was the dominant land use type. From the figure it is clear that cultivated land dominated on the gentle slope whereas forest land on steeper slope. It can be observe a slight increase of agricultural land despite its steepness. In the valley built-up area increases in the cost of agricultural area these changes reflect the highest potential of the gentle slopes for intensive cultivation in this area and the constraints imposed by steep slopes on such activities.

## CONCLUSION

The results indicate a greater loss of the natural ecosystem to infrastructural development and both of these classes (urban and agriculture) oftentimes increase at the expense of forest class. The Central valley is one of the most thickly populated areas in the country with a density of 730 persons per sq km as compared to an all India average of 382 persons per sq km. The urban population of valley is four time that of the hill district (Census, 2011). The population growth accelerate deforestation pressure as more the cleared land, more the population it can support (Diaz et al., 2006; DeFries et al., 2010; Reddy et al., 2016). The changes in land use in the study area can be link to increasing population and rapid urbanization. The drivers behind this change are logging; population pressure; unsustainable land-use practices to produce crop after crop in order to remain financially secure. In this study site, the topographic position was an important factor affecting LULC. Positive relationship was found between forest and slope while it was negatively correlated with agriculture and settlement. Higher density of forest cover estimates were found in 20°-30° slope gradient and in an around 1000 m altitude amsl. The abandoned jhum slope at high elevation in the study area shows relatively the low canopy density due to the practice of Jhuming.

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## A STUDY ON MORPHOMETRIC CHARACTERISTICS OF JIADHAL RIVER BASIN USING REMOTE SENSING AND GIS

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### ABSTRACT

*The morphometric analysis of a drainage basin and channel network play an important role in understanding the behaviour of drainage basin and expresses the prevailing climate, geology, geomorphology, structural antecedents of the catchment. In the present study, morphometric analysis has been carried out using Geographical Information System (GIS) techniques. The measurement and analysis of the basin parameters are carried for Linear, Areal and Relief aspects. Within these aspects there are many parameters which are being determined by using mathematical formula on the data derived from IRS LISS III imagery for the study area. The Jiadhal river catchment covers an area of 1,205 sq.km of which 835 sq.km i.e. 69% lie in Assam. The upper part of the basin is hilly with high gradient of the river. The lower part is in Brahmaputra valley and here the gradient of the river decreases. The drainage pattern of the upper section of the basin is trellis pattern and the lower section is annabranched. The analysis has revealed that the total number and length of stream segments is maximum in first order streams and decreases as the stream order increases. The bifurcation ratio (Rb) between different successive orders varies revealing the geostructural control. The shape parameters indicate the elongated shape of the basin with high relief. The highest order stream available in the basin is six. The stream density is moderate for the whole basin. The analysis and measurement of basin morphometric aspects and parameters in GIS will be of immense utility in river basin evolution, understanding the basin for natural resources assessment, planning and management.*

*Key Words: Morphometric analysis, Remote sensing and GIS, Drainage basin, Jiadhal River, Bifurcation ratio.*

### INTRODUCTION

Basin morphometry is an important means of understanding a drainage basin using mathematically derived parameters. Measurement of the shape or geometry, of any natural form- be it plant, animal or relief features is termed morphometry (Strahler, 1969). But in geomorphology 'morphometry may be defined as the measurement and mathematical analysis of the configuration of the earth's surface and of the shape and dimension of its landforms' (Clarke, 1970). In fact morphometry incorporates quantitative study of the area, altitude, volume, and slope, profiles of the land and drainage basin characteristics of the area concerned. (Sing, 1972). The drainage basin analysis is important in any hydrological investigations like assessment of ground water potential and ground water management. Various important hydrologic phenomena can be correlated with the physiographic characteristics of drainage basins such as size, shape, slope of drainage area, drainage density, size and length of the tributaries etc. (Rastogi et al., 1976). The various conventional methods of calculating basin morphometry like Horton, 1950; Smith, 1950; Schumm, 1956 and Strahler, 1957 are most commonly used, but recently along with these the Remote Sensing and GIS (Geographical Information system) became an important tool to analyze, to update and to correlate the measurements with periodic changes. Remote sensing data can be used in conjunction with conventional data for delineation of ridgelines, characterization, priority evaluation, problem identification, assessment of potentials and management needs, identification of erosion prone areas, evolving water conservation strategies, selection of sites for check dams and reservoirs etc., (Dutta et al., 2002).

The present paper describes the drainage characteristics of Jiadhal River basin and an attempt has been made in this study to visualise the extent of variations in landform contrasts and their magnitude in the Jiadhal river Sub-basin in proper perspectives, by adopting advanced and current quantitative techniques of fluvial Geomorphology obtained through Remote Sensing and GIS based morphometric analysis. It is felt that the study will be useful to understand the nature of the drainage basin, its hydrological behaviour, its characteristics and this will help in better planning and management of the basin. The Study is focussed on linear, aerial, and relief aspects of the catchments using GIS tools.

### STUDY AREA

The Jiadhal River is one of the north bank sub-tributaries of the Brahmaputra River that empties in Charikoria River. Geographically the Basin of the Jiadhal River extends from 27°15' N to 27°45' N latitudes and 94°15' E to 94°40' E longitudes, covering an area of 1191.62 sq km, of which 38% (446.6 sq km) lies in Arunachal Pradesh and 62% (746.6 sq km) in Assam (Fig.1).

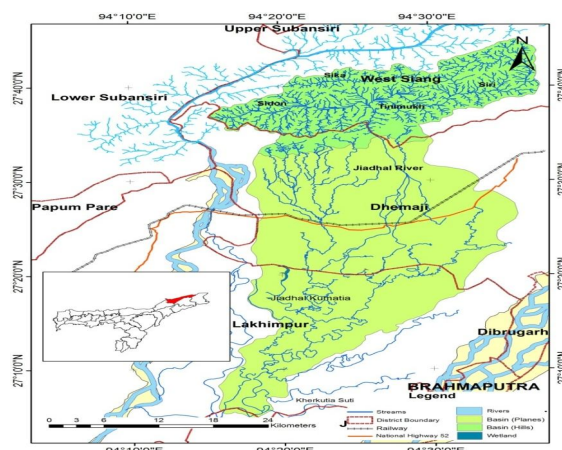


Fig.1: Location of the study area.

The three main tributaries of Jiadhal in upper catchment are Siri, Sido and Sika rivers these rivers meet at a place called Tinimukh in the Arunachal Himalaya and the combined flow downstream is known as the Jiadhal in the plains of Assam. It flows through Dhemaji District of Assam to meet the Kherkatia Suti, a distributary of the Brahmaputra. The river flows through West Siang district of Arunachal Pradesh and Dhemaji District of Assam. It is bounded by the Subansiri Sub-basin on its west and north and by Moridhal Sub-Basin on its East. The southern side of the Sub-basin is bounded by the Kherkatia Suti, a channel of the Brahmaputra. . The Basin experiences sub-tropical monsoon climate with mild dry winter and warm humid summer. However the upper catchment of the study area experiences humid continental with severe winter. The mean annual rainfall for the basin is estimated to be 3851mm (Brahmaputra Board Assam).

## OBJECTIVES

This study is an attempt to fulfil the following objectives:

- To find out the use of Remote sensing and GIS tools in morphometric analysis of Jiadhal River Basin and evaluate the nature of the basin in relation with the characteristics of the terrain.
- To support decision on the basis of the results which may help for better implementations of the plans related to the basin and potentiality of the basin.

## METHODOLOGY

To deal with the objectives in the present study, morphometric analysis is based on the use of Remote sensing and GIS techniques .The most important data's for the morphometric analysis are the survey of India Toposheets No.83I/6,83I/7,83I/8,83I/8,and 83I/10,on 1:50000 scale and IRS LISS III Imagery. The remotely sensed data is geometrically rectified with respect to the toposheets. The Georeferencing and digitization of the drainage basin and its networks in different layers are carried out in GIS software (Arc GIS version 10.2).The stream ordering is done by using Strahlers method. Various other morphometric parameters under linear, aerial, and vertical aspects are calculated and interpreted using standards methods and formulae (Horton 1932, 1945;Smith 1954;Strahler,1964).The fundamental parameters such as stream length, area, perimeter, number of streams and basin length are derived from drainage layer. The values of stream length, bifurcation ratio, density, texture, circulatory ratio, frequency, form factor, elongation ratio, are calculated on the basis of the formulae suggested by Horton (1945), Miller (1953), Schumm(1956),Strahler (1964).

## RESULTS AND DISCUSSIONS

Basin morphometry is described within three different aspects and they are the linear aspects, areal aspects, and vertical aspects. The values of these parameters are obtained as per the methods proposed by various researchers for the study area and indicated in respective descriptions.

### LINEAR ASPECTS:

Linear aspects of the basin are related to the channel pattern of the drainage network, wherein the topographical characteristics of the stream segments in terms of open links of the network system are analysed. The linear Aspects includes –

**Stream order (U):** Stream ordering (U), refers to the determination of the hierarchical position of a stream within a drainage basin. There are different methods of stream ordering given by Horton (1945), Strahler (1952) and Schideggar (1970). ). Here for stream ordering of Jiadhal River basin Strahlers system which is a slightly modified of Horton's system has been followed Fig.(2). According to Strahler “each finger tip-channel is

designated as a 1<sup>st</sup> order stream, two first order streams join together to form a 2<sup>nd</sup> order stream and similarly two 2<sup>nd</sup> order stream join to form a segment of 3<sup>rd</sup> order and so on .When two channel of different order join then the higher order is maintained.

Here in Jiadhal River basin there are total 926 number of streams out of which, 726 are first order streams, 170 second order streams, 50 third order streams, 12 fourth order streams, 3 fifth order streams and 1 sixth order stream. The Highest order stream that is available in this basin is the 6<sup>th</sup> order stream. Thus it is found that the Jiadhal river tributaries are of 6<sup>th</sup> order. The properties of the stream networks are very important to study basin characteristics (Strahler, 2002).

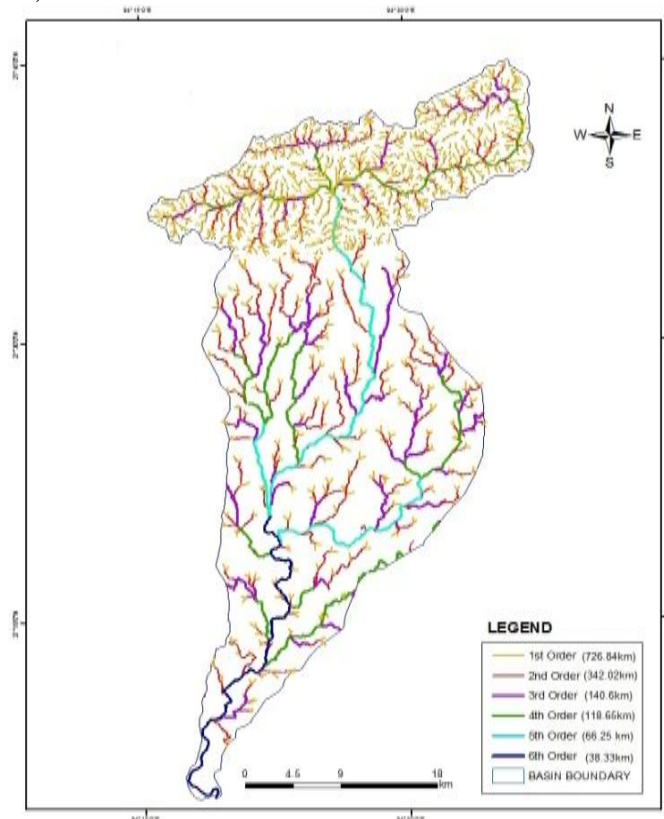


Fig.2: Drainage order map by Strahlers method.

**Stream length ( $L_u$ ):** Stream length ( $L_u$ ), Stream length is very significant in determining the hydrological features of the basin as it reveals the surface runoff characteristics. The stream length is measured on the basis of law proposed by Horton (1945). The stream of relatively smaller length is characteristics of areas with larger slopes and finer textures. Longer lengths of streams are generally indicative of flatter gradient. Generally, the total length of stream segments is maximum in first order stream and decreases as stream order increases. The numbers of streams are of various orders in a watershed are counted and their lengths from mouth to drainage divide are measured here with the help of GIS software. The total length of the 1<sup>st</sup> order stream is 726.84 km, 2<sup>nd</sup> order stream is 342.02 km, 3<sup>rd</sup> order stream is 140.60, km, 4<sup>th</sup> order stream is 118.65, km, 5<sup>th</sup> order stream is 66.25, km, and 6<sup>th</sup> order stream is 38.33 km. The total length of all the streams is 1432.69 km. The plotting of the logarithm of stream versus stream order helps in understanding the characteristics of the basin in terms of lithology and topography (Singh and Singh, 1997; Vittala, et al, 2004).

**Mean stream length ( $L_{sm}$ ):** The mean stream length is a characteristics property related to the drainage network and its associated surfaces (Strahler, 1964). The mean stream length ( $L_{sm}$ ) has been calculated by dividing the total stream length of the order by the number of streams. The mean stream length of the study area is 1.001 for the 1<sup>st</sup> order stream, 2.01 for the 2<sup>nd</sup> order stream, 2.88 for the 3<sup>rd</sup> order stream, 9.88 for the 4<sup>th</sup> order stream, 22.08 for the 5<sup>th</sup> order stream and 38.33 for the 6<sup>th</sup> order stream. The mean stream length of the stream increases with the increase of the orders.

**Stream Length ratio ( $R_L$ ):** The stream length ratio can be defined as the ratio of the mean stream length of a given order to the mean stream length of next lower order and has an important relationship with surface flow and discharge (Horton, 1945). By observing the above table it is clear that as the stream order increases the average stream length of respective order increases, thus the gradient of the streams decreases as the order increases. The  $R_L$  value of 1<sup>st</sup> order stream is 2.12, 2<sup>nd</sup> order stream is 2.43, 3<sup>rd</sup> order stream is 1.18, 4<sup>th</sup> order

stream is 1.79, 5<sup>th</sup> order stream is 1.72 respectively. The  $R_L$  values between streams of different order in the basin reveal that there are variations in slope and topography of the River basin.

**Bifurcation Ratio ( $R_b$ )** Bifurcation ratio ( $R_b$ ) may be defined as the ratio of the number of stream segments of a given order ( $N_u$ ) to the number of segments of the next higher order ( $N_{u+1}$ ) (Schumm 1956). If the bifurcation ratio of a river network is low there is a higher chance of flood. The most common bifurcation ratio is ranging between 3 to 5 is such a basin where the geological structure do not distort the drainage pattern (Strahler, 1964) and it indicates that the drainage system characterise with homogeneous lithology. The bifurcation ratio for the Jiadhal River basin is 3.76 which indicate that the basin is structurally controlled.

**Table1: Calculation of Bifurcation Ratio**

Stream Order	No. of Streams	Bifurcation Ratio
U	$N_U$	$R_b$
1 <sup>st</sup> order	726	4.27
2 <sup>nd</sup> order	170	3.4
3 <sup>rd</sup> order	50	4.16
4 <sup>th</sup> order	12	4
5 <sup>th</sup> order	3	3
6 <sup>th</sup> order	1	0
Total	962	
Mean of bifurcation Ratio		3.76

**Table 2: Results of the Linear Aspects of Basin Morphometry**

Stream Order	No. of Streams	Total length of Streams in km	Mean Stream length in km	Stream length Ratio	Log of Total Stream length	Log of No of Streams
(U)	( $N_u$ )	( $L_u$ )	$L_{SM}$	( $R_L$ )	Log $L_u$	Log $N_u$
1 <sup>st</sup> order	726	726.84	1.001	2.12	2.86	2.86
2 <sup>nd</sup> order	170	342.02	2.011	2.43	2.53	2.23
3 <sup>rd</sup> order	50	140.6	2.881	1.18	2.14	1.69
4 <sup>th</sup> order	12	118.65	9.887	1.79	2.07	1.07
5 <sup>th</sup> order	3	66.25	22.083	1.72	1.82	0.47
6 <sup>th</sup> order	1	38.33	38.33		1.58	0
Total	962	1432.69				

**Aerial Aspects:** Areal aspects of the basin morphometry include the horizontal characteristics of the drainage basin. Among the areal aspects the most important parameters are the Area of the basin (A) and its perimeter (P). The area of the Jiadhal river basin is 1398.46 Sq km and its perimeter is 207.98 km. The other parameters of the areal aspects includes Drainage Density, Stream frequency, Drainage texture, Texture ratio, Form factor, circulatory ratio, Elongation ratio, Length of overland flow.

**Drainage Density ( $D_d$ ):** The drainage density of a river basin refers to total stream length per unit area. It is described by Horton in 1932 as the ratio of cumulative length of the stream of a watershed to its area, which is expressed in terms of km/km<sup>2</sup>. It has been observed from drainage density measurement made over a wide range of geological and climatic type that a low drainage density is more likely to occur in region and highly resistant of highly permeable subsoil material under dense vegetation cover and where relief is low. High drainage density is the resultant of weak or impermeable subsurface material, sparse vegetation and mountainous relief. Low drainage density leads to fine drainage texture (Strahler). In the present study the Jiadhal River basin has a drainage density of 1.01 km of channel per unit square kilometre of area, indicating moderate drainage densities. The moderate density indicates the basin is highly permeable subsoil and vegetative cover (Nag, 1998).

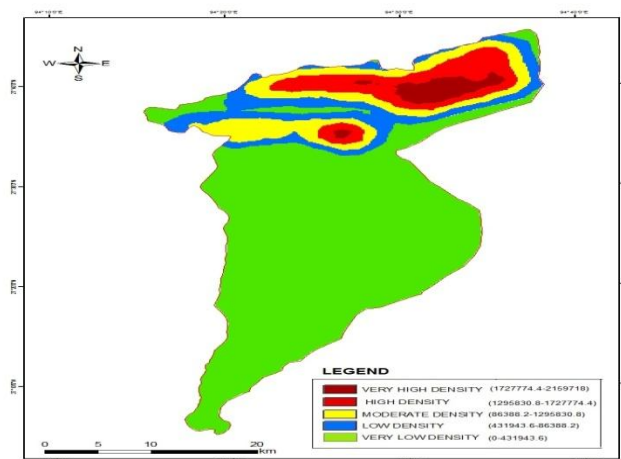


Fig 3: Drainage Density map

**Stream Frequency ( $F_s$ ):** Stream frequency is the measure of number of streams per unit area. It exhibits a positive correlation with drainage density in basin indicating an increase in stream population with respect to the increase in drainage density (Horton 1932). Jiadhal river basin has a stream frequency of 0.69, i.e it has a low stream frequency.

**Drainage Texture ( $D_T$ ):** Drainage texture ( $D_T$ ) is defined as the relative spacing of drainage lines and it is a product of drainage frequency and drainage density. Course drainage texture is generally found in areas with low drainage density, medium in medium drainage density areas and ultra fine in high density regions (Strahler, 1964). Jiadhal drainage basin has a drainage texture of 0.69, which is a low value. Thus it has a low drainage texture.

**Texture Ratio (T):** Texture Ratio is defined as the number of crenulations in the basin contour having the maximum number of crenulations divided by the basin perimeter (Smith, 1950). Thus in the case of Jiadhal river basin the Texture ratio (T) is 3.49, which indicates a moderate value and moderate infiltration capacity and moderate relief of the terrain.

**Elongation Ratio ( $R_e$ ):** Elongation ratio is defined by Schumm (1956) as the ratio of the diameter of a circle of the same area as the drainage basin and the maximum length of the basin. It is an important index of analyzing shape of the basin. Higher the value of Elongation ratio indicates very low relief (Strahler 1964). Here in the case of Jiadhal River basin the value of elongation Ratio is 0.54, which is elongated in shape.

**Circulatory Ratio ( $R_c$ ):** Circulatory ratio is the ratio of the area of a basin to the area of circle having the same circumference as the perimeter of the basin (Miller, 1953). It is found in the Jiadhal basin the circulatory ratio value is 0.40, and therefore the basin is elongated in shape less permeability of sub-soil condition.

**Form Factor Ratio ( $R_F$ ):** Form factor is defined as the ratio of the basin area to the square of the basin length. The factor indicates the flow intensity of a basin of a defined area Horton, (1945). Basin with high form factors experiences larger peak flows of shorter duration, whereas elongated watersheds with low form factors experiences lower peak flows of longer duration. The form factor ratio for Jiadhal river basin is 0.23, indicating elongated basin with lower peak flows of longer duration.

**Relief Aspects:** Relief aspects basically imply the vertical characteristics of the basin. These aspects include the highest and the lowest point of the basin which are observed by the spot heights or the contours that are present in the basin. Relief aspects include- Basin relief, Relative relief, relief ratio, ruggedness number.

**Basin relief:** It is the difference of elevation between the highest and the lowest point in the basin. The highest point (h) in the basin is 1526 metres above the mean sea level and the lowest point (I) or the remotest point is at 91 metres above the mean sea level. The relief of the basin is 1.435km. The general basin relief is high in the study area.

**Relative Relief ( $R_r$ ):** Relative relief (Hammond 1954, Thauer 1955) is also termed as amplitude of relief or local relief which represents actual variations of altitude in a unit of area with respect to its local base level. Here the maximum height differences in each grid square from the relevant toposheets have been used as control for drawing isopleths in Arc Gis Software. The basin has a relative relief of 6.7 km, and this is the relief that actually affects the flow of the river in the basin. The basin has a high relative relief and hence higher gradient (Fig.4).



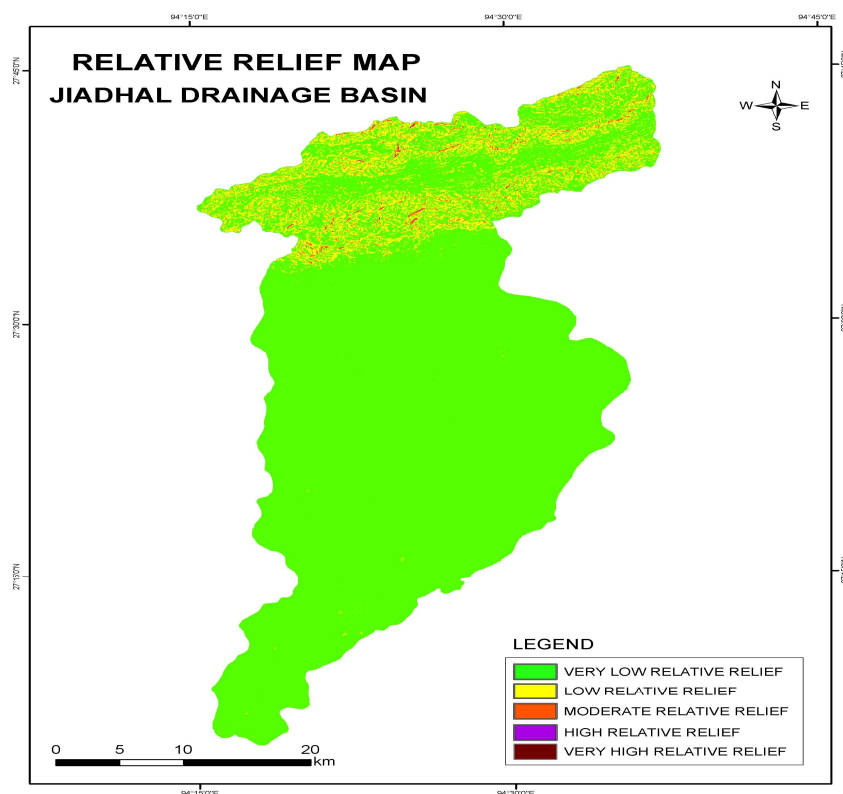


Fig 4: Relative relief map.

**Relief Ratio ( $R_h$ ):** The relief Ratio is the ratio of maximum relief to horizontal distance along the longest dimension of the basin parallel to the principal drainage line (Schumm, 1956). It is the measure of overall steepness of the basin and it is an indicator of the intensity of the erosional processes operating on the slope of the basin (Schumm 1956). The present basin has a relief ratio of 18.71 km which is a high value and hence the intensity of the erosion in the basin is also more.

**Ruggedness Number ( $R_n$ ):** Ruggedness number is the ultimate outcome of the total watershed relief and the drainage density. Generally, ruggedness number becomes higher with the higher value of relative relief and drainage density values. Extremely high values of ruggedness number generally occur when both the values are large *i.e.*, when slopes are steep as well as long in nature. (Strahler, 1956). The ruggedness number for the present basin is 1.44, which indicates higher erosional intensity in the basin.

Table 3: Results of Morphometric Analysis

Sl. No	Parameter	Value
1	Basin Area (Km)	1376.52
2	Perimeter (km)	207.98
3	Basin length (Lb) Km	76.6
4	Basin order	6
5	Drainage Density (Dd) (km/km <sup>2</sup> )	1.01
6	Stream Frequency (Fs)(Km <sup>2</sup> )	0.69
7	Drainage texture (Dt)	0.69
8	Texture Ratio (T)	3.49
9	Elongation ratio (Re)	0.54
10	Circulatory Ratio (Rc)	0.4
11	Form Factor Ratio (Rf)	0.23
12	Length of overland Flow (Lg)	0.49
13	Basin Relief (Bh) (m)	1435
14	Relative relief (Rr)	6.7
15	Relief Ratio (Rh) km	18.71
16	Ruggedness number (Rn)	1.44

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**CONCLUSION**

Gis and Remote Sensing techniques have proved to be accurate and efficient tool in drainage delineation. From the above discussion it is seen that the linear aspects of the basin morphometric parameters in the Jiadhah river basin suggest that the lower reach of the basin is in old stage of geomorphic development and has a negligible risk of occurrence of flood. The areal aspects of the morphometric parameters suggest the existence of moderately permeable subsoil, coarse drainage texture and elongated shape of the basin. The relief aspect of the basin parameters suggest of high relief in the basin, high steepness of the slope and higher intensity in the basin. High relief along with elongated shape of the basin is prone to floods. Thus the analysis of morphometric parameters is found to be of immense utility in river basin evaluation, watershed prioritization for soil and water conservation, and natural resources management at a micro level.

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## **LEVEL OF DEVELOPMENT AND ENCOURAGEMENT TO TEXTILE INDUSTRY EMPLOYEES IN TIRUPUR**

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### **ABSTRACT**

*Indian textile is embellished, enhanced, decorated and given its character through various modes and techniques and it is reputed throughout the world. Indian Textile Industry plays an important role in the economic development of the country. A major portion of foreign earning comes from the Textile industry. Tirupur textile industry is a backbone of the development of Tamilnadu textile industry and contribute a major share of national income to India. Tirupur is called as dollar city of India. Tirupur helps to solve the unemployment problem of not only Tamil Nadu state and also solve other states like Kerala, Orissa, Bihar. QWL of textile industry employees leads to improve the progress of the firm quickly. So the Quality of Work Life of textile industry employee is identified as important one. Work position offers opportunities for learning, research, discovery, self-development, and enhancement of skills, room for innovation, public recognition, exploration, celebrity-status, and loads of fame. Naturally, this type of works is interesting and very much rewarding also. So the researcher studies the level of encouragement and development present status of the textile industry employees in Tirupur.*

*Keywords: QWL, encouragement and development, dollar city*

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### **INTRODUCTION**

Indian textile industry has a reputation all over the world. Indian textile industry is ever demanding one in both domestic and export. The industry has abundant availability of raw material and labor forces too. Tamil Nadu textile industry contributes more for the GDP growth. Tirupur is called as dollar city of Tamil Nadu. Tirupur textile industry provides a lot of employment opportunities to unskilled and semi-skilled labor. Because every year people immigration is increased from other states and district to Tirupur for overcoming the employment problems. Every job should offer career development. That is an important factor which decides the Quality of Work Life. Status improvement, more recognition from the management and appreciations are the motivating factors for anyone to take a keen interest in the job.

The work atmosphere should be conducive to achieve organizational goals as well as individual development. It is a win-win situation for both the parties; an employee should be rewarded appropriately for his good work, extra efforts, sincerity and at the same time a lethargic and careless employee should be penalized suitably; this will motivate the former to work with more zeal and deter the latter from being so, and strive for better performance. If an organization does not give chance for growth and personal development, it is very difficult to retain the talented personnel and also to find new talent with experience and skill. So one the factor of encouragement and development also play a major role in the QWL factor. Because every human needs moral support as encouragement and development to stand with a positive attitude about working condition. Working condition of the textile industry wants to know in this situation.

### **REVIEW OF LITERATURE**

Deepak Kumar Battacharya (1993) has conducted a study on "Promotion from within: A positive reinforce for enriching Quality of Work Life for white collar employee", with an aim to identify whether technological advancement, structural changes in the economy and change in the occupational pattern influence the perceptual QWL for Indian workers in general and working company employee, in particular, working in public sector banks in the city of Calcutta. The findings of the study disclosed that perceived QWL of bank employees remain unchanged even after computerization. High degree of dependence of the sample employees on union tribunals and other legal machinery for redressal of their grievances, monotonous and repetitive jobs, and inter-alia also badly reflect the QWL on the bank employees.

Duncan Gallie (2003) have made a comparison of employees' perceptions of the Quality of Working tasks, the degree of involvement in decision making, career opportunities, and job security to see whether the Scandinavian countries have a distinctive pattern from other European Union countries. It was found that on the aspects of working life that were most central to the reform programmes, the results were consistent with the view that there could be societal

**SCOPE OF THE STUDY**

This study made an attempts to know the present status of encouragement and development of Tirupur Textile Industry employees. Because every individual need differs kinds of motivation either monetary or non-monetary based encouragement and development. The positive encouragement and development should provide positive outlook among the employees.

**OBJECTIVES OF THE STUDY**

The study was undertaken with the objectives namely:

- To study the personal and occupational profile of the employees' of Textile Industry in Tirupur
- To study the employees' opinion towards development and encouragement of Textile industry in Tirupur

**METHODOLOGY OF THE STUDY**

The Primary and secondary data were used in this study. The primary data was collected through questionnaire method. The sample respondents are taken from in and around Tirupur area. For analysis, simple percentage analysis, T-test, F-test are used. The respondents selected based on convenient sampling method. The size of the sample is 500 Textile Industry employees in Tirupur.

**ANALYSIS AND INTERPRETATION**

An attempt has been made to examine the association between the employees' opinion towards development and encouragement with their personal and occupational profile. T-test and F-test have been applied to find the association by formulating the null hypothesis.

**Ho: There is no significant association between employees' opinion towards development and encouragement and their personal/occupational profile.**

**i) Personal profile and employees opinion towards development and encouragement**

Table 1 portrays the mean values of employees' opinion towards development and encouragement for all independent variables that determine the personal profile such as age, gender, marital status, educational qualifications, family size, family income and family debt.

**Table 1: Distribution of respondents based on the association between personal profile and their opinion towards development and encouragement**

Sr No	Variables	Group	Mean	SD	No.	F Test	T Test	df.	Table Value	Sig.
1	Age	18 - 25 yrs	22.72	2.52	113	23.252		499	3.357	**
		25 - 35 yrs	21.90	2.60	179					
		35 - 45 yrs	23.08	3.75	95					
		45 - 55 yrs	20.58	1.83	76					
		Above 55 yrs	25.46	2.53	37					
2	Gender	Male	23.44	2.44	289		10.297	498	2.586	**
		Female	20.91	3.03	211					
3	Marital Status	Unmarried	22.51	2.38	124	2.687		499	2.623	*
		Married	22.29	3.05	248					
		Divorced	21.89	3.07	85					
		Widowed	23.42	3.65	43					
4	Educational Qualifications	Illiterate	22.84	3.29	58	.653		499	2.390	Ns
		Primary	22.32	3.08	283					
		Higher Secondary	22.20	2.72	137					
		Graduate	22.87	2.50	15					
		Diploma	22.86	1.35	7					
5	Family Members	1 - 3	22.23	2.99	120	2.810		499	3.014	Ns
		4- 6	22.26	3.01	315					

		Above 6	23.18	2.66	65					
6	Family Income	Rs.5001 - Rs.10000	21.85	3.15	33	1.026		499	2.623	Ns
		Rs.10001 - Rs.15000	22.03	3.08	71					
		Rs.15001 - Rs.20000	22.37	3.01	222					
		Above Rs.20000	22.61	2.85	174					
7	Family Debt	No	21.70	3.01	88		2.329	498	1.968	*
		Yes	22.51	2.95	412					

Source: Primary Data

NS-Non-Significant, \* - 5 % level of Significance, \*\* - 1 % Level of Significance

T-test and F-test results show that the calculated value is lower than the table value in the case of educational qualifications, family members and family income at either 5 percent or 1 percent significance level. The hypothesis is accepted and therefore, there is no association found between these personal variables and opinion towards development and encouragement. At the same time, *the calculated value is higher than the table value at either 5 percent or 1 percent significance level in the case of personal variables such as age, gender, marital status, and family debt. Therefore, a null hypothesis is rejected* in these cases.

The influence of these variables on the employee opinion towards development and encouragement with mean value is high for the respondent who are above 55 years (25.46) , high for male respondents (23.44) , high for widow respondents (23.42, high for graduate (22.87, high for the respondents whose family has above 6 members (23.18) ,high for the respondents whose family income is above Rs.20000 (22.61) and high for the respondents who have family debt (22.51).

## ii) Occupational profile and opinion towards development and encouragement

Table 2 portrays the mean values of employees' opinion towards development and encouragement for all independent variables that determine the occupational profile such as unit size, type of job activity, work experience, wage, and work schedule.

**Table 2: Distribution of respondents based on the association between occupational profile and their opinion towards development and encouragement**

Sr No	Variables	Group	Mean	SD	No.	F test	T Test	df.	Table Value	Sig.
1	Size of Unit	Small	21.52	3.19	200	14.994		499	4.648	**
		Medium	22.82	2.83	200					
		Large	23.19	2.35	100					
2	Type of job Activity	Fabrication, Compacting and Calendaring	22.52	2.82	106	2.701		499	2.623	*
		Dyeing, Bleaching, and Printing	22.15	2.72	52					
		Cutting, Sewing, Embroidering and packing	22.00	3.11	205					
		Composite unit	22.90	2.92	137					
3	Total Experience in Textile Industry	Less than 5	22.85	2.82	59	9.088		499	3.357	**
		5 - 10	21.63	2.72	250					
		10 - 15	22.94	3.14	122					

		15 - 20	23.93	2.69	15					
		Above 20	23.56	3.11	54					
4	Wage (p.m)	Below Rs.3000	21.80	2.20	10	18.072		499	3.357	**
		Rs.3001 -Rs. 6000	23.65	3.22	49					
		Rs.6001 -Rs. 9000	20.75	2.84	107					
		Rs. 9001 -Rs. 12000	21.99	2.96	155					
		Above Rs.12000	23.36	2.50	179					
5	Work Schedule	Day shift	21.08	3.08	165	18.177		499	3.357	**
		Afternoon shift	22.79	3.79	29					
		Night shift	22.56	2.19	9					
		Irregular shift on Cal	24.11	2.53	93					
		Rotating shift	22.55	2.50	204					

Source: Primary Data

NS-Non-Significant, \* - 5 % level of Significance, \*\* - 1 % Level of Significance

F-test results show that *the calculated value is higher than the table value at either 5 percent or 1 percent significance level in the case of unit size, type of job activity, experience, wage, and work schedule. The null hypothesis is rejected in these cases and therefore, there is the association between these occupational variables and opinion towards development and encouragement.*

The influence of these variables on employee opinion towards development and encouragement identified with the mean score value is high for the respondents who are working in large units (23.19), high for the respondents who are working in composite units (22.90), high for the respondents having between 15 and 20 years' experience (23.93), high for the respondents whose wage is between Rs.3001 and Rs.6000 (23.65 and high for the respondents who are working in irregular shifts (24.11).

## FINDINGS

- There is no association of employees' opinion on the development and encouragement of educational qualification, family member, and family income.
- There is an association of employees' opinion on the development and encouragement with age, gender, marital status and family debt is found.
- Male respondents, respondents who are above 55 years, Respondents who are widows. and the respondents who have debt in their family are found to agree more on development and
- There is an association of employee opinion on the development and encouragement with unit size, type of job activity, experience, wage and work schedule is found.
- The respondents who are working in large units are found to agree more on development and encouragement compared to the respondents who are working in small units.
- The respondents who are working in composite units, the respondents having between 15 and 20 years' experience, the respondents whose wage lies between Rs.3001 and Rs.6000 and the respondents who are working in irregular shifts are found to agree more on development and encouragement.

## SUGGESTIONS

- Employers should take necessary steps to attract dissatisfied female and young employees by offering benefits such as study allowance, medical allowance and other monetary support at the right time and encourage the employees at their workplace.
- Motivational measures such as rewards for cost cutting and time management may also be given to the employees for a better Quality of Work Life.
- Employers should develop compassion towards work. The employers should also recognize those who get rid by themselves from personal and work related problems in passionate ways.

- Employees can be given freedom in deciding about work methods, approval of materials, inviting participation of subordinates, interacting with workers, giving feedback and changing the work environment.
- A variety of monetary and non-monetary benefits to an employee will increase the Quality of Work Life.

### **CONCLUSION**

In the present era, an employee is major role player because without labor any industry cannot survive. So the employee is the asset of the industry. Textile Industry employer takes care of the Quality of Work Life of employee leads to improve the image of the employer among the employee. The factors namely age, gender, marital status, family debt, unit size, type of job activity, experience, wage and work schedule are mostly associated with the development and encouragement of Tirupur Textile Industry employees. Large unit's employee can get more development and encouragement facilities compare to small and medium units. The employer of the Tirupur Textile Industry should concentrate on the area of development and encouragement facilities to the employee. This facility can encourage the new talented employees to get into their concern.

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**DETERMINANTS OF PROFITABILITY IN INDIAN TELECOM INDUSTRY USING  
FINANCIAL RATIO ANALYSIS**

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**ABSTRACT**

*The Indian telecommunications industry is one of the fastest growing in the world. Government Policies and regulatory framework implemented by Telecom Regulatory Authority of India (TRAI) have provided a favorable environment for service providers.*

*The successful selection and use of proper financial ratio is one of the key fundamentals of the firm's financial strategy. Financial ratio analysis is a vital one since the profitability of an enterprise is directly affected by such decision. Hence, appropriate care and awareness require to be prearranged while such decision is taken. The purpose of this study is to examine the relationship between the financial ratio analysis and profitability of the Indian Public and Private sector Telecom companies over the past five(15) years period from 2001 – 2016. These financial ratio analyse have enormous potentials to help organizations in improving their revenue generation capacity as well as minimization of costs. This study uses five (5) variables for the analyses such as: Inventory turnover ratio (ITR); Debtors' turnover ratio (DTR); Creditors' Turnover Ratio (CTR); Total assets turnover ratio (TATR) and Gross profit margin (GPM). Profitability as a dependent variable is represented by Gross profit margin (GPM) while financial ratio analysis stands as ITR, DTR, CTR and TATR for independent variables. To measure the financial soundness of the above mentioned sample telecom companies this study provides an overview and technical introduction of financial statement ratio analysis. It also illustrates technique of financial performance analysis and discusses action levers to enhance performance of the selected companies. The analysis and interpretation part has been done with the help of statistical tool, independent sample t-test by SPSS 20. The paper is based on secondary data, collected from published Annual reports and financial statements of the telecom companies. With a panel data set, this study uses dynamic fixed effect and random effect models for estimation, which allows us to test the relationship between Profitability and selected ratios.*

*Key words: Keywords: Debtors' Turnover Ratio , Creditors' Turnover Ratio , Gross Profit Margin, Inventory Turnover Ratio and Total Assets Turnover Ratio*

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**1. INTRODUCTION**

Firm performance can be measured in different ways and by applying different methods; however, one of the most widely applied methods refers to financial analyses that use profitability ratios as key measures of firm's overall efficiency and performance. Although a great number of theories tried to explain the reasons why some firms are more profitable than others, and numerous studies investigated different variables that may influence firm performance, the issue of firm business success continues to be an inexhaustible subject that draws attention of many practitioners and researchers.

Every firm is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratio which is used to determine the company's foundation line. Profitability measures are important to company managers and owner in a similar way. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors. Profitability ratios show a company's overall efficiency and performance. Many researchers have studied the determinant of profitability in many ways. But none of them had studied on the determinant of profitability using financial ratio analysis. Because of this, researcher chose this research work to show how the financial ratio analysis can be used in determination of profitability in telecommunication industry.

**2. LITERATURE REVIEW**

There are many authors who have contributed to the literature, and those are discussed below:

Nweze (2011) defines ratio analysis as financial statement analysis uses as a primary tool, ratios, which relate two figures applicable to different categories.

Okwuosa (2005) sees ratio analysis is one number expressed in terms of another to show the relationship between them. He adds that in financial accounting and reporting, it is generally agreed that there are certain relationships between items shown in the profit and loss account and those in the balance sheet as well as between items in these statements. So ratios are used as a means of expressing these relationships.

Ezeamama (2010) argues that ratios are most effectively used in interpretation of financial statement when compared to a standard or norm. A single ratio in itself does not indicate favourable or unfavourable condition. It has to be compared with a benchmark or standard before commenting on the ratio.

Thukaram Rao (2009) states that ratio analysis is the process of determining and interpreting numerical relationship based on financial statements. It helps to summarise the large quantities of financial data and to make qualitative judgement about the firm's financial performance.

Osisioma (1996) says that analysis is the resolutions or separation of data into their elements or component parts, the tracing of facts to their source with a view to discovering the general principles underlying to individual phenomena. He continues that the analysis of financial accounts is therefore, the interpretation, amplification and translation of facts and data contained in the financial statements, the purpose being the drawing of relevant conclusions therefore, making inferences as to business operations, financial position and future prospects.

Chandra (2008) adds that financial ratio analysis is a study of ratios between various items or groups of items in financial statement.

Pandey (2010) sees financial analysis as a process of identifying the financial strengths and weaknesses of the firm by properly establishing relationships between the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account. He adds that ratio analysis is a powerful tool of financial analysis. A ratio is used as a benchmark for evaluating the financial position and performance of a firm. So the relationship between two accounting figures, expressed mathematically, is known as a financial ratio (or simply as a ratio).

### **3. OBJECTIVE OF THE STUDY**

The main objective of the study is to determine whether financial ratio analysis have any effect on the profitability of the companies with particular reference to some leading Telecommunication companies in India.

#### **THE SPECIFIC OBJECTIVES OF THIS STUDY ARE:**

- i) To examine the relationship between Gross Profit Margin (GPM) of the public and private sector of selected telecommunication companies in India.
- ii) To analyse the relationship between Inventory Turnover ratio (ITR) of the public and private sector of selected telecommunication companies in India.
- iii) To find out the relationship between Debtors turnover ratio (DTR) of the public and private sector of selected telecommunication companies in India.
- iv) To examine the relationship between Creditors Turnover ratio (CTR) of the public and private sector of selected telecommunication companies in India.
- v) To evaluate the relationship between Total asset Turnover ratio (TATR) of the public and private sector of selected telecommunication companies in India.

### **4. STATEMENT OF HYPOTHESES**

Based on the research questions, the following hypotheses were developed:

**H0:** There is no significant difference between mean of GPM, ITR, DTR, CTR and TATR of Private and Public companies.

**H1:** There is a significant significant difference between mean of GPM, ITR, DTR, CTR and TATR of Private and Public companies

### **5. FINANCIAL RATIO ANALYSIS TECHNIQUES IN ORGANISATION**

#### **INVENTORY TURNOVER RATIO (ITR)**

Nweze (2011) says that inventory turnover is computed by dividing the cost of goods sold by the average inventory. An average inventory is determined by adding the beginning and ending inventories and dividing by two. The decline in the inventory turnover indicates the stocking of more goods. An attempt should be made to determine whether specific inventory categories are not selling well and the reason for this.

#### **DEBTORS' TURNOVER RATIO (DTR)**

Leahy (2012) sees debtors' turnover ratio as accounts receivable variable that measures the impact of a company's credit function on profitability. This impact includes the risk associated with extending credit. He adds that the higher the ratio of accounts receivable to sales, the greater the manufacturer's profitability.

**CREDITORS VELOCITY (CRSV)**

Okwuosa (2005) says that creditors' velocity means creditors' turnover. This indicates the average number of times creditors' turnover is paid within a year. High creditors' turnover ratio indicates that the company is not taking advantage of credit facility and this may result in loss of profit as a result of interest on borrowed funds or bank overdraft needed to meet up. On the other hand low creditors' turnover ratio indicates that the company is not taking advantage of any discount associated with prompt payment and this may lead to increase in their cost of sales and consequently decrease in their profit. Therefore, a company should ensure that its creditors' turnover ratio is neither too high nor too low. The creditors' turnover is calculated by dividing Credit purchases by Average creditors.

**TOTAL ASSETS TURNOVER RATIO (TATR)**

Ezeamama (2010) defines total assets turnover as ratio that expresses the number of times the value of assets utilized by the firm has been generated into sales. According to Pandey (2010) total assets' turnover ratio shows the firm's ability in generating sales from all financial resources committed to total assets. Nweze (2011) says total assets turnover measures the level of capital investment relative to sales volume. It tells the firm how well it manages its overall assets.

**GROSS PROFIT MARGIN (GPM)**

Osioma (1996) sees gross profit margin as a measure of the efficiency of a firm's sales operations with respect to the cost of goods sold. By using the gross profit figure, it avoids the distortion that may be caused by non-operating cost and revenue, and thus, limits itself to an evaluation of the trading and manufacturing operations. This ratio is based on the firm's net sales, because a firm's sales are its most important feature. Sales make profit- without sales there can be no profit. A low gross profit margin is an indication that cost of goods is relatively too high.

**6. RESEARCH METHODOLOGY**

Since the purpose of this research is to gain a better insight into the profitability of Telecommunication Industry and the effects of various independent variables on the dependent variables. A descriptive research was adopted to obtain necessary data for the study

**6.1 METHOD OF DATA COLLECTION**

In conducting this research paper, the available data on the study are secondary source of data.

**6.2 PERIOD OF STUDY**

The study is based on last 15 years data i.e. from 2001-2016.

**6.3 METHOD OF DATA ANALYSIS****Descriptive Analysis**

Descriptive analysis is the first step of this analysis, it will help researchers to describe relevant aspects of financial management (both mobilization of funds and deployment of funds) and provide detailed information about each relevant variable. Researchers have already been conducted in our area of study and a lot of information is already on hand and SPSS Software has been used for analysis of the different variables in this study.

**THE VARIABLES THAT ARE USED FOR THE STUDY ARE**

- 1). Gross Profit Margin (GPM) Gross Profit /Sales
- 2). Inventory turnover ratio (ITR) Inventory /Sales
- 3). Debtors' turnover ratio (ITR) Trade debtors/Sales
- 4). Creditors' Turnover Ratio (CTR) Trade creditors/Cost of sales
- 5). Total Assets turnover ratio (TATR) Total Assets/Sales

**7. RESULTS AND DISCUSSIONS OF FINDINGS**

Variable	P Value	Status
GPM	0.081	$0.081 > 0.05$
ITR	0.015	$0.015 < 0.05$
DTR	0.000	$0.000 < 0.05$
CTR	0.001	$0.001 < 0.05$
TATR	0.758	$0.758 > 0.05$



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**8. FINDINGS**

From the result of t-test, it is seen that p value for GPM is 0.081 which is greater than 0.05.

Here the study accepts the null hypothesis at 5 % significant level.

It implies that there is no significant difference between the mean values of GPM among the Private and Public limited companies.

From the result of the t-test it is seen that p value for ITR for public and private sector companies was 0.015 which is lesser than 0.05. Here the study rejects the null hypothesis at 5 % significant level. Therefore the study accepts that there is significant difference between the mean values of ITR among private and public sector.

From the result of t-test, it is seen that p value for DTR is 0.000 which is lesser than 0.05. Here the study rejects the null hypothesis at 5 % significant level. Therefore the study accepts that there is significant difference between the mean values of DTR among private and public sector.

From the result of t-test, it is seen that p value for CTR is 0.001 which is lesser than 0.05. Here the study rejects the null hypothesis at 5 % significant level. Therefore the study accepts that there is significant difference between the mean values of CTR among private and public sector.

From the result of t-test, it is seen that p value for TATR is 0.758 which is greater than 0.05.

Here the study accepts the null hypothesis at 5 % significant level.

It implies that there is no significant difference between the mean values of TATR among the Private and Public limited companies.

**9. RECOMMENDATION**

Telecommunication sector is one of the crucial sector under service sector which comprises of nearly half of the Nations GDP. So it is a well selected sector in the current scenario. The above study can also be put forward to other sectors like Automobile, Pharmaceuticals, Oil Refinery, IT sector etc and a comparative analysis can be prepared.

**10. CONCLUSION**

From this study it has been found out that out of the selected 5 sector, the Gross profit Margin (GPM), and Total Assets Turnover Ratio (TATR) shows that there is significant difference between the mean value among the Private and Public Sector companies.

Whereas out of the selected 5 sectors Inventory Turnover Ratio (ITR) , Debtors Turnover ratio(DTR) and Creditors Turnover ratio (CTR) shows that there is significant difference between the mean values among the Private and Public Sector companies.

The study depicts that most of the ratios like Gross profit Margin (GPM) and Total Assets Turnover Ratio (TATR) falls within Profitability ratios whereas Inventory Turnover Ratio (ITR), Debtors Turnover ratio (DTR) and Creditors Turnover ratio (CTR) comes under liquidity ratios.

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**AN ANALYSIS OF TRENDS OF BANKS IN NIFTY BANK USING  
RELATIVE STRENGTH INDEX (RSI) AND RATE OF CHANGE INDICATOR (ROC)**

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**ABSTRACT**

*Investment in equities involves a lot of risks. All investors who invest in equities should do ample analysis before investing. They should understand the fluctuations in the prices of equities frequently before making his buying and selling decision. The prices of equity stocks always move in unstable trends and cycles. An investor is always interested in buying stocks at low price and selling at high price. So fixing the buying and selling prices of a stock plays a vital role in equities investment. There are two approaches to decide the reasonable buying and selling price of equity stocks, Fundamental Analysis and Technical Analysis. The former approach determines the true value of the stock based on present and future earnings of the company and the latter determines the value of the stock based on the trends and movement of prices in the market. Since the present market is highly speculative, technical analysis works better. In this study, the trends of 12 banks of Nifty Bank index of National Stock Exchange is analyzed technically using oscillators like Relative Strength Index (RSI) and Rate of Change (ROC) indicator, for a period of past months of 2017.*

*Keywords: Technical Analysis, trends, Nifty Bank index, Relative Strength Index (RSI), Rate of Change Indicator (ROC), closing price, oversold and overbought.*

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**INTRODUCTION**

Investment in stocks is one of the risky investments. Those who invest in equities should do ample research and analysis before making their investments in stocks. The investors should make their decisions on buying and selling price only on the basis of their analysis rather random decision making. There are two approaches to do this, fundamental and technical analysis. The fundamental analysis is based on current and future earning capacity of the organization and true worth of the share is determined, but the technical analysis is based on the trends and price movements of the stocks only. The price is forecasted using historical price data. The present stocks market in our country is highly volatile and speculation dominates the market. So the technical analysis or trend analysis works better than fundamental analysis. The technical analysis is based on trends. Trends means the direction at which the stocks prices moves in the market. Downtrend or falling trend occurs when prices moves downward and raising trend or uptrend occurs when prices moves upwards. The prices of stocks always move in a trend and the stocks prices will not be in a straight line. The technical analysis can be done using oscillators as well. Rate of Change Indicator (ROC) and Relative Strength Index (RSI) are two of the oscillators. The measure of rate of change of current prices compare to the price of certain days ago is ROC and RSI is an indicator that gives buying and selling signals in advance ahead of market. In this study the researcher has analyzed the trends of stock prices of 12 banks in Nifty bank index of National Stock Exchange for a period of two months from January 1<sup>st</sup> 2017 to March 31<sup>st</sup> 2017.

**REVIEW OF LITERATURE**

Many past studies have emphasized the importance of technical analysis in making investment decision in equities. Equity stock is a perpetual financial instrument in which no return is promised by the issuer. So the investor has to do ample analysis before investing. The volatility in today's stock market has made technical analysis as a better tool. Jensen and Bennington explained that the past information which is used to predict the future will not work out exactly every time. Neftci explains that the process is linear measure and the technical analysis will not work perfectly. Falbo and Retizzari state that there are many methods for technical analysis. The profitability based on the method of technical analysis is dynamic over time. P Selvam and L Rakesh have explained the application of Relative Strength Index in identifying the movements of stock prices and how it is used in trading with regards to Information Technology sector.

**OBJECTIVES**

- To identify the best buying and selling price of stocks of banks in nifty bank index
- To understand the overbought and oversold condition of stocks of banks in nifty bank index
- To measure the expected capital gain or loss of investments made using Relative Strength Index and Rate of Change Index

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**DATA COLLECTION**

The study is based on secondary data which is obtained from the website of National Stock Exchange. The data are taken for a period of three months starting from 1<sup>st</sup> January 2017 to 31<sup>st</sup> March 2017.

**TOOLS USED**

The tools used for the analysis are Rate of Change Index (ROC) and Relative Strength Index (RSI). The formula of Rate of Change Index (ROC) is as follows,

$$\text{ROC} = ((\text{Most Recent Closing Price} - \text{Closing Price n Period ago}) / \text{Closing Price n Period Ago}) * 100$$

The formula of Relative Strength Index (RSI) is as follows,

$$\text{RSI} = 100 - (100 / (1 + \text{Relative Strength}))$$

$$\text{Relative Strength} = 14 \text{ Days Average Gain} / 14 \text{ Days Average Loss}$$

**ANALYSIS OF RATE OF CHANGE INDICATOR (ROC)**

ROC is used to measure the rate of change of the current price in comparison with the price of certain number of days ago, usually seven days. Each and every day prices are divided by the price of prevailing certain days ago and the same is subtracted to 1. Simply it's a ratio of current price and price of certain days ago and it is subtracted to 1. The ROC of a stock can be positive, negative and zero. The negative ROC shows the oversold condition i.e., the price of the particular stock is less because of too much of selling pressure and it is good price to buy the particular share. Hence the negative ROC signals buying. The positive ROC signals best selling price of a stock and the price of the stock will be high, positive ROC shows the overbought condition. Oversold condition means it is a situation in which the supply exceeds the demand and the selling pressure will be high which makes the price of particular share to fall. Overbought is a condition in which the demand exceeds the supply of a share and the price of the share will increase. The oversold condition is good for buying and overbought is good for selling.

The ROC will clearly show the trends and it is used to understand at what trend the particular scrip falls in at present. The two trends which occur usually are the buying and selling trend. The buying trend starts with highest price and ends with lowest price. The selling trend starts with highest price and ends with lowest price. It is very difficult to make buy or sell decision based on trends. ROC helps to understand the position of scrip in the trends. If scrip is found as oversold by ROC means, it is in the buying trend and if the scrip is found overbought means it is in the selling trend.

In this study the researcher has analyze the ROC of twelve banks as follows

1. Axis Bank Ltd.
2. Bank of Baroda
3. Bank of India
4. Canara Bank
5. Federal Bank Ltd.
6. HDFC Bank Ltd.
7. ICICI Bank Ltd.
8. IndusInd Bank Ltd.
9. Kotak Mahindra Bank Ltd.
10. Punjab National Bank
11. State Bank of India
12. Yes Bank Ltd.

The analysis of ROC of these banks from January 1, 2017 to March 31, 2017 is as follows.

The buying and selling trends of the twelve banks and the gain or loss made by an investor by making his investment decision on the basis of ROC is given in the following table.

Trends	Buy Trend		Sell Trend		Gain / Loss (Rs)
	Date	Price (Rs)	Date	Price (Rs)	
Axis Bank					
Trend 1	12-Jan-17	455.20	19-Jan-17	483.80	28.60
Trend 2	20-Jan-17	450.70	13-Feb-17	490.30	39.55
Trend 3	14-Feb-17	486.90	03-Mar-17	512.90	26.00
Trend 4	06-Mar-17	518.65	14-Mar-17	510.90	-7.75
Trend 5	15-Mar-17	511.70	17-Mar-17	511.8	5.45
Bank of Baroda					
Trend 1	20-Jan-17	154.35	10-Feb-17	188.05	33.7
Trend 2	13-Feb-17	168.8	31-Mar-17	172.95	4.15
Bank of India					
Trend 1	20-Jan-17	112.35	13-Feb-17	128.75	16.40
Trend 2	14-Feb-17	128.60	31-Mar-17	139.25	10.65
Canara Bank					
Trend 1	20-Jan-17	272.65	25-Jan-17	281.75	9.10
Trend 2	27-Jan-17	284	13-Feb-17	300.90	16.90
Trend 3	14-Feb-17	303.20	21-Mar-17	288.45	-14.75
Trend 4	22-Mar-17	282.25	31-Mar-17	302.75	20.50
Federal Bank					
Trend 1	31-Jan-17	76.05	13-Feb-17	83.95	7.90
Trend 2	14-Feb-17	83.15	1-Mar-17	88.05	4.90
Trend 3	2-Mar-17	84.85	31-Mar-17	91.45	6.60
HDFC Bank					
Trend 1	10-Feb-17	1303.60	1-Mar-17	1391.65	88.05
Trend 2	2-Mar-17	1380.1	24-Mar-17	1424.35	44.25
Trend 3	27-Mar-17	1409.85	31-Mar-17	1442.55	32.70
ICICI Bank					
Trend 1	20-Jan-17	263.45	10-Feb-17	281.60	18.15
Trend 2	13-Feb-17	281.65	22-Feb-17	286.15	4.50
Trend 3	23-Feb-17	284.50	20-Mar-17	275.05	-9.45
IndusInd Bank					
Trend 1	20-Jan-17	1220.25	14-Feb-17	1330.40	110.15
Trend 2	15-Feb-17	1316.45	27-Feb-17	1320.75	4.30
Trend 3	28-Feb-17	1312.60	31-Mar-17	1425.15	112.55
Kotak Mahindra Bank					
Trend 1	20-Jan-17	723.05	3-Feb-17	765.30	42.25
Trend 2	6-Feb-17	766.70	31-Mar-17	872.20	105.50
Punjab National Bank					
Trend 1	13-Feb-17	142.35	21-Mar-17	142.85	0.50
Trend 2	22-Mar-17	136.40	31-Mar-17	149.90	13.50
State Bank of India					
Trend 1	13-Feb-17	271.65	20-Mar-17	273.90	2.25
Trend 2	21-Mar-17	272.35	31-Mar-17	293.40	21.05
Yes Bank					
Trend 1	6-Feb-17	1398.45	9-Feb-17	1408.20	9.75
Trend 2	10-Feb-17	1412.85	21-Feb-17	1449.75	36.90
Trend 3	22-Feb-17	1446.95	1-Mar-17	1454.65	7.70
Trend 4	2-Mar-17	1424.70	21-Mar-17	1484.75	60.05
Trend 5	22-Mar-17	1470.85	31-Mar-17	1546.75	75.90

**AXIS BANK**

The lowest price in this period taken for analysis is Rs 445, on 23<sup>rd</sup> of January and the highest price is Rs 528.15 on 23<sup>rd</sup> of February. The ROC of the lowest price day is -0.0224, this shows that the stocks of this bank is oversold .i.e., too much of selling and this recommends buying. The ROC of the highest price day is 0.0847,

this shows the stock is overbought .i.e., too much of buying and this recommends selling. Thus the ROC helps to anticipate the trend movements and helps the investors to make buying and selling decisions. There are five trend cycles in this stock. The first trend starts on 12-Jan-17 at a buy price of Rs 455.20 and ROC of -0.0001 and ends with a sell price of Rs 483.80 and ROC of 0.0815 on 19-Jan-17. An investor would have enjoyed a gain of Rs 28.60 per share if he invests in this trend. The second trend starts on 20-Jan-17 at a buy price of Rs 450.70 and ROC of -0.0063 and ends with a sell price of Rs 490.30 and ROC of 0.0161 on 13-Feb-17 with a gain of Rs 39.55 per share. The third trend starts with a buy price of Rs 486.90 and ROC of -0.0077 on 14-Feb-17 and ends with a sell price of Rs 512.90 and ROC of 0.0170 on 03-Mar-17 with a gain of Rs 26 per share. The fourth trend ends with a loss of Rs 7.75 per share and the last trend ends with a gain of Rs 5.45 per share. The buying and selling price is decided on the basis of ROC.

#### **BANK OF BARODA**

The stocks of Bank of Baroda have two trend cycles in this period. The lowest price in the period taken for analysis is Rs154.20 on 23-Jan-2017. The ROC on that day is -0.0284. The highest price is Rs 188.05 on 10-Feb-2017 with ROC 0.0867. The first trend starts on 20-Jan-17 with a price of Rs 154.35 and ROC of -0.0329, the first trend end on 10-Feb-17 with a price of Rs 188.05 and ROC of 0.0867. An investor would have gained Rs 33.70 per share if he bought a stock in the beginning of the trend and sell at the end of the first trend. The second trend starts on 13-Feb-17 at a price and ROC of Rs 168.80 and -0.0498 respectively. An investor would have gained Rs 4.15 per share in the second trend.

#### **BANK OF INDIA**

The lowest price of Bank of India is Rs 112.35 on 20-Jan-17 and the highest price is Rs 139.25 on 31-Mar-17. The ROCs of lowest price and highest price are -0.0166 and 0.1069 respectively. There are only two trend cycles occurred in the trend of Bank of India. The first trend starts on 20-Jan-17 with a price of Rs 112.35 and ROC of -0.0166 and ends on 13-Feb-2017 at a price of Rs 128.75 and ROC of 0.0279. An investor would have made of gain of Rs 16.4 per share if he buys in the beginning of the trend and sells at the end of the trend. Similarly, the investors would have gained Rs Rs 10.65 per share.

#### **CANARA BANK**

The stocks of Canara bank had four trend cycles during the period of analysis. The lowest price is Rs 272.65 on 20-Jan-17 and the highest price is Rs 311.5 on 07-Feb-17. The ROCs on these days are -0.0132 and 0.0968 respectively. An investor would have gained Rs 9.10 and Rs 16.90 in the first two trends respectively. But the third trend ends with loss of Rs -14.75, the third trend starts with a price of Rs 303.20 and ROC of -0.0251. Since the ROC is negative it supports buying, but the trend end with least price. But there are many opportunities in this trend where the investors can buy at lower price and sell at higher price and book profit, for instance if the investor buys the stock on 27-Feb-17 instead of buying on the beginning day of the trend, he would have bought at Rs 288.40 and sold on the highest price day .i.e., on 1-Mar-17 at a price of Rs 296 he would have gained Rs 7.60 instead of incurring loss.

#### **FEDERAL BANK**

The stocks of Federal Banks had three trend cycles during the period of analysis and all the trends are profitable to the investors. The first trend starts on 31-Jan-2017 with a stock price of Rs 76.05 and ROC of -0.0136 and the trend ends with a price of Rs 83.95 per share and ROC of 0.0006. An investor would have earned a profit of Rs 7.90 per share. Similarly, the investor would have earned a profit of Rs 4.90 and Rs 6.60 in the second and third trends respectively.

#### **HDFC BANK**

The stocks of HDFC Banks had three trend cycles in the analysis period. The first trend begins on 10-Feb-17 at a price of Rs 1303.60 and ends at a price of Rs 1391.65. The investment in this trend gives a profit of Rs 88.05 per share. The ROC in the beginning and end of this trend is -0.0016 and 0.0106 respectively. Similarly the other two trends are also profitable for investments as given in the table.

#### **ICICI BANK**

The stocks of ICICI bank had three trend cycles during this period. The first two trends are positive to the investors and the last trend which started on 23-Feb-17 at a price of Rs 284.50 and ROC of -0.0005 and end on 20-Mar-17 at a price of Rs 275.05 ends at a loss of Rs 9.45 per share.

#### **INDUSIND BANK**

The stocks of the bank had three trend cycles during the period of analysis. The first trend starts on 20-Jan-17 at a price of Rs 1220.25 and ROC of -0.0110. The first trend ends on 14-Feb-17 at a price of Rs 1330.40 and ROC

of 0.0209. The gain in this trend cycle is Rs 110.15. Similarly the next two buying and selling trends is also decide on the basis of ROC and it is found that both the trends has a gain of Rs 4.30 and Rs 112.55 respectively.

#### KOTAK BANK

The stocks of Kotak Bank had two trend cycles during the period of analysis. The first trend starts on 20-Jan-17 at a price of Rs 723.05 and ROC of -0.0073. The first trend ends on 3-Feb-17 at a price of Rs 765.30 and ROC of 0.0295. The gain in this trend is Rs 42.25. Similarly in the second trend the gain is Rs 105.50

#### PUNJAB NATIONAL BANK

The stocks of PNB had two cycles in the period of analysis. Both the trends gained Rs 0.5 and Rs13.50 respectively. The first trend starts on 13-Feb-17 with a ROC of -0.0018 and ends on 21-Mar-17 with a ROC of 0.0120. The second trend starts on 22-Mar-17 with a ROC of -0.0374 and ends on 31-Mar-17 with ROC of 0.0990

#### STATE BANK OF INDIA

The stock had two trend cycle in the period of analysis. The first trend starts on 13-Feb-17 at a price of Rs 271.65 at a ROC of -0.0060 and ends at a price of Rs 273.90 at a ROC of 0.0148. The gain in this trend is Rs 2.25 per share. The second trend starts with a price of Rs 272.35 on 21-Mar-17 with ROC of -0.0033 and ends at a price of Rs 293.40 on 31-Mar-17 with ROC of 0.0968. The gain in the second trend is Rs 21.05

#### YES BANK

The stocks had five trend cycles in the period of analysis. All the trend cycles are profitable. The gains in the trends from first to fifth are Rs 9.75, Rs 36.90, Rs 7.70, Rs 60.05 and Rs 75.90. The first trend starts on 6-Feb-17 at a price of Rs 1398.45 and ROC of -0.0059, the trends ends on 9-Feb-17 at a price of Rs 1408.20 and ROC of 0.0087. Similarly the other four trends were also profitable.

#### ANALYSIS OF RELATIVE STRENGTH INDEX (RSI)

Relative Strength Index is a technical indicator which is used to measure the strength or weakness of a stock. It is sued to determine the overbought and oversold condition. Overbought is a condition in which the demand and price of a stock is high and it supports selling. Oversold is a heavy selling condition in which the supply exceeds the demand. The price of a stock will be low and it supports buying. Measuring Relative Strength Index will help an investor to make his investment decisions .i.e., buy and sell decisions wisely. It gives an indication to investors about when to buy and sell a particular stock. Relative Strength Index is a momentum oscillator and it is measured in a scale of 0 to 100. The overbought condition is indicated when RSI of a stock exceeds 70 in the measuring scale and oversold is indicated when RSI of a stocks falls below 30 in the measuring scale .i.e., when RSI is above 70 means it is overbought condition and the price of a stock at this condition will be high and it supports selling. Similarly when RSI is less than 30 means it is oversold condition and the price of a stock at this condition will be low and it supports buying. The profitable Relative Strength Index days of 12 banks from 01-Jan-2017 to 31-Mar-2017 is given in the following table,

Oversold Condition (Buy)			Overbought (Sell)			Gain/Loss
Date	Price	RSI	Date	Price	RSI	
Axis Bank						
27-Mar-17	487.15	25.50	29-Mar-17	504.20	45.91	17.05
Bank of Baroda						
23-Feb-17	168.15	29.34	28-Mar-17	173.90	71.20	5.75
27-Feb-17	164.40	28.13	29-Mar-17	173.50	72.80	9.10
28-Feb-17	165.30	25.64	30-Mar-17	173.65	72.75	8.35
01-Mar-17	165.35	25.75	31-Mar-17	172.95	72.17	7.60
Bank of India						
2-Mar-17	125.95	31.07	28-Mar-17	135.95	70.10309	10
3-Mar-17	125.75	34.35	29-Mar-17	138.40	75.97656	12.65
Oversold Condition (Buy)			Overbought (Sell)			Gain/Loss
Date	Price	RSI	Date	Price	RSI	
Canara Bank						
23-Feb-17	291.50	26.04	29-Mar-17	302.10	63.94	10.60
27-Feb-17	288.40	24.02	30-Mar-17	303.15	66.96	14.75
03-Mar-17	288.70	29.51	31-Mar-17	302.75	69.07	14.05
Federal Bank						
23-Feb-17	84.1	48.31	28-Mar-17	90.55	70.62	6.45

27-Feb-17	83.55	48.31	29-Mar-17	91.15	73.53	7.6
22-Mar-17	87.05	46.71	31-Mar-17	91.45	73.45	4.4
<b>HDFC Bank</b>						
14-Mar-17	1410.7	50.97	23-Mar-17	1430.9	82.94	20.20
15-Mar-17	1416.6	50.64	24-Mar-17	1424.35	79.39	7.75
<b>ICICI Bank</b>						
10-Mar-17	270.55	27.07	30-Mar-17	281.35	56.21	10.80
<b>IndusInd Bank</b>						
3-Mar-17	1,299.20	42.55	24-Mar-17	1,389.55	80.91	90.35
6-Mar-17	1,319.70	43.75	30-Mar-17	1,422.30	81.00	102.60
<b>Kotak Bank</b>						
15-Feb-17	784.30	43.50	24-Mar-17	879.35	93.62	95.05
<b>Punjab National Bank</b>						
28-Feb-17	141.40	31.39	16-Mar-17	148.20	66.84	6.80
<b>State Bank of India</b>						
27-Feb-17	268.20	28.46	29-Mar-17	288.45	70.81	20.25
28-Feb-17	269.20	28.98	30-Mar-17	291.05	70.31	21.85
03-Mar-17	265.05	29.37	31-Mar-17	293.40	73.74	28.35
<b>Yes Bank</b>						
07-Mar-17	1448.20	47.89	30-Mar-17	1552.15	69.17	103.95

**AXIS BANK**

The oversold condition i.e., RSI less than 30 has occurred only on 27-Mar-2017 during the period taken for analysis. The overbought condition i.e., the ROC above 70 has never occurred after the above mentioned date. Let us assume that an investor bought this stock on 27-Mar-2017 at a price of Rs 487.15 and RSI 25.50 and sold the stock at a price of Rs 504.20 on 29-Mar-2017. The RSI on this date is 45.91, which is the highest RSI after the purchase of the stock and till 31-Mar-2017. So it is assumed that the investor has decided to sell at the highest RSI date rather than at 70, because 70 has not occurred after the date of purchase of the stock, hence the investor sold it at the highest RSI date. The investor gains Rs17.05 per share of Axis Bank by buying and selling based on RSI.

**BANK OF BARODA**

The oversold condition has occurred four days, 23<sup>rd</sup>, 27<sup>th</sup> and 28<sup>th</sup> of February and 1<sup>st</sup> of March with price Rs 168.15, Rs 164.40, 165.30 and 165.35, RSI of 29.34, 28.13, 25.64 and 25.75 respectively. The overbought condition occurs from 28-Mar-2017 to 31-Mar-2017. The RSI of these days are 71.20, 72.80, 72.75, and 72.17 respectively. The RSI of all these days are above 70 and hence it supports selling. The price of the stocks on these days is Rs173.90, Rs 173.50, Rs 173.65 and Rs 172.95 respectively. Let's assume that an investor bought this stock at all the above oversold condition prices and sold them at the above overbought prices means he will gain Rs 5.75, Rs 9.10, Rs 8.35 and Rs 7.60 respectively.

**BANK OF INDIA**

The oversold condition has never occurred exactly with a RSI of 30 but the ROC of two days is close to 30. The RSI of 2<sup>nd</sup> and 3<sup>rd</sup> March is 31.07 and 34.35 respectively with the price of Rs 125.95 and Rs 125.75. It is assumed that the investor buy the stocks on the above mentioned days and sold them on 28-Mar-17 at a price of 135.95 and RSI of 70.10 and on 29-Mar-2017 at a price of Rs 138.40 and RSI of 75.97. By buying on 02-Mar-2017 and selling it on 28-Mar-2017, the investor would gain Rs 10 per share and by buying on 03-Mar-2017 and selling on 29-Mar-2017 would gain Rs 12.65 per share

**CANARA BANK**

The RSI of three days is less than 30. The RSI of 23<sup>rd</sup> & 27<sup>th</sup> of February and 3<sup>rd</sup> March are 26.04, 24.02 and 29.51 respectively. The prices of the stocks on these days are Rs 291.50, Rs 288.40 and Rs 288.70 respectively. The RSI of the stock is not signaling selling in any of the days after the buying day's i.e., the above mentioned dates, but there are three days in which the RSI is close to 70. The RSI of 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> of March is 63.94, 66.96 and 69.07 respectively and the prices of stocks on these days are Rs 302.40, Rs 303.15 and Rs 302.75 respectively. If an investor buys at the low RSI prices and sells at high RSI prices means he would have earned Rs 10.60, Rs 14.75 and Rs 14.05 respectively.



**FEDERAL BANK**

The RSI of the stock didn't signal buying at any point of time in the period taken for analysis. So the least RSI is considered to be the buy signal and it is assumed that the investor bought at the least RSI. The RSI of the stock on 23<sup>rd</sup>, 27<sup>th</sup> of February and 22<sup>nd</sup> of March is 48.31, 48.31 and 46.71 respectively. The price of the stock on these days is Rs 84.10, Rs 83.55 and Rs 87.05. The RSI of the stock very well signals the selling. The RSI on 28<sup>th</sup>, 29<sup>th</sup> and 31<sup>st</sup> of March is 70.62, 73.53 and 73.45 respectively. The price on these days is Rs 90.55, Rs 91.15 and Rs 91.45. If an investor buys on the low RSI days and sells at high RSI day means he would have gained Rs 6.45, Rs 7.60 and Rs 4.40 respectively.

**HDFC BANK**

The RSI of the stock didn't signal buying at any point of time in the period taken for analysis. So the least RSI is considered to be the buy signal and it is assumed that the investor bought at the least RSI. The RSI on 14<sup>th</sup> and 15<sup>th</sup> March is 50.97 and 50.64 respectively. The price on these days is Rs 1410.70 and Rs 1416.60. The RSI on 23<sup>rd</sup> and 24<sup>th</sup> March is 82.94 and 79.39 respectively. The price on these days is Rs 1430.90 and Rs 1424.35 respectively. The gain of an investor would be Rs 20.20 and Rs 7.75.

**ICICI BANK**

The RSI of stock is less than 30 only on 10<sup>th</sup> March. The RSI and price on this day is 27.07 and Rs 270.55 respectively. The RSI of none of the days signals selling, so it is assumed that the investor decide to sell at the highest RSI. The highest RSI after 10<sup>th</sup> March .i.e., the day of purchase, is 56.21 on 30-Mar-2017. The price is Rs 281.35. If an investor buy on low RSI day and sells at high RSI day means he would have earned Rs 10.80 per share.

**INDUSIND BANK**

The RSI of the stock didn't signal buying at any point of time in the period taken for analysis. So the least RSI is considered to be the buy signal and it is assumed that the investor bought at the least RSI. The RSI on 3<sup>rd</sup> and 6<sup>th</sup> of March is 42.55 and 43.75 respectively. The highest RSI corresponding to the purchase RSI is 80.90 and 81 on 24<sup>th</sup> and 30<sup>th</sup> of March. The investor will gain Rs 90.35 and Rs 102.60 per share if invest on above mentioned dates.

**KOTAK BANK**

Since the RSI of the stock didn't signals buying, it is assumed that the investor will buy at the lowest RSI price. The lowest RSI is 43.50 on 15-Feb-2017, the price is Rs 784.30. The highest RSI is 93.92 on 24-Mar-2017; the price is Rs 879.35 per share. The gain of an investor would be Rs 95.05 per share.

**PUNJAB NATIONAL BANK**

The RSI of the stock is not less than or equal to 30 in any of the days taken for analysis, so the RSI very close to 30 is decide to buy. The RSI and price on 28-Feb-2017 are 31.39 and Rs 141.40 respectively. The RSI close to 70 after the date of purchase is on 16-Mar-2017, the RSI on the day is 66.84. The price on this day is Rs148.20. If the investor invests in this stock means he would have earned Rs 6.80 per share.

**STATE BANK OF INDIA**

The RSI of the stock supports buying and selling thrice during the period of analysis. The RSI of three days supports buying. The RSI on 27<sup>th</sup>, 28<sup>th</sup> February and 3<sup>rd</sup> March is 28.46, 28.98 and 29.37 respectively, since all the RSI are less than 30 it support buying. The RSI on 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> of March is 70.81, 70.31 and 73.74 respectively. Since all the RSI are above 70, selling is strongly recommended. The investor will gain Rs 20.25, Rs 21.85 and Rs 28.35 if he buy and sell on above dates.

**YES BANK**

The RSI of the stock is not less than or equal to 30. So the least RSI is taken to decide the buying, the least RSI is 47.89 on 7<sup>th</sup> March. The highest RSI after this date is decided for selling, the highest RSI is on 30<sup>th</sup> March. The RSI on this date is 69.17, the price is Rs 1552.15. If investor bought and sold as per thr RSI means he would have earned Rs 103.95 per share.

**FINDINGS**

The investment decision made on the basis of RSI is better than ROC. The decision made on the basis RSI should be compared with ROC for a better investment decision. In other words, make a primary decision on the basis of RSI and compare it with ROC. The findings of the analysis made on the basis on the oscillators, ROE and RSI are as follows,

- In the case of Axis bank, the buying is decided on 27<sup>th</sup> March at RSI of 25.05 which is less than 30. The ROC on this day is negative which supports selling as well. Since both the RSI and ROC supports buying, it

is decide to buy the stocks on the day mentioned above. Similarly the stocks signals selling on 29<sup>th</sup> March, the RSI on this day is 45, which is not equal to or above 75, but this is the highest RSI since the day of purchase. The ROC on this day is also negative which supports selling.

- The stocks of Bank of Baroda signals buying on 23<sup>rd</sup>, 27<sup>th</sup>, 28<sup>th</sup> of February and 1<sup>st</sup> of March. The RSI on these days are less than 30, hence it supports buying. The ROC of all these days, except 27<sup>th</sup> February, is negative. The ROC is 0.01 in 27<sup>th</sup> February which is very close to neutral; hence it is assumed that it supports buying. The stocks signals selling on 28<sup>th</sup> to 31<sup>st</sup> of March, the RSI of all these days are above 70 and ROC is also perfectly positive in all these days as well.
- The buying and selling decisions of Bank of India has worked out better using RSI and ROC. The RSI of the stocks in 2<sup>nd</sup> and 3<sup>rd</sup> March is 31.07 and 34.35 respectively, the RSI of both of these days are not less than or equal to 30 but these are the least RSI in the period taken for analysis and close to 30 as well. The ROC of these two days is negative which supports buying. The stocks signals selling on 28<sup>th</sup> and 29<sup>th</sup> of March because the RSI of both of these days are above 70 and ROC of both the days is positive as well
- In the case of Canara Bank, the decision is made as per ROC is perfect because the ROC of buying dates is perfectly negative and ROC of selling dates are perfectly positive. As far as RSI is concerned, the RSI on 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> of March are the highest after the day of purchase of the stocks. The RSI of all these days are not equal to or greater than 70 but very close to 70, hence it is decided to sell and ROC of all these days are perfectly positive which supports selling.
- The decision made on buying and selling of Federal bank is entirely different from others because both the RSI and ROC are not perfect in making investment decisions because none of the days in the period taken for analysis is perfect for buying or selling as per RSI and ROC. There is no days with RSI is less than or equal to 30. As far as ROC is concerned, only very few days with negative ROC, hence buying decision became very difficult because of irregularities in both the oscillators. So it is decided to take buying decision based on the least RSI, the RSI of 23<sup>rd</sup>, 27<sup>th</sup> of February and 22<sup>nd</sup> of March are least and hence purchased. The ROC of these days is very close to neutral. The selling decision is not much complicated, because the RSI on 28<sup>th</sup>, 29<sup>th</sup>, and 31<sup>st</sup> of March are above 70 and ROC is also positive. The decisions made are profitable.
- The RSI of HDFC Bank is not less than or equal to 30 in any of the days taken for analysis. The ROC is also not supportive in buying. There are certain days in which the ROC is negative but the RSI is above 65, hence it is risky to buy. So it is decided to buy in least RSI days. It is found that the RSI is least on 14<sup>th</sup> and 15<sup>th</sup> March. The ROC of these two days is positive but close to neutral. The selling decision is very easy to take because the RSI on 23<sup>rd</sup> and 24<sup>th</sup> of March is above 70 and ROC of these two days is also positive and supports selling. The buying and selling as per the above dates are profitable.
- The buying decision made in the stocks of ICICI Bank, based on RSI and ROC is perfect. The stocks are suitable to purchase on 10<sup>th</sup> March because the RSI is less than 30 and ROC is negative as well. In the case of selling, there is no day with RSI less than 70 after the day of purchase. So it is decided to sell at a highest RSI day. On 30<sup>th</sup> March the RSI is 56.21 which are highest after the day of purchase and ROC on this day is also positive which supports selling.
- The purchase decision is not made exactly as per RSI in the case of IndusInd bank. There is no day with RSI less than 30. So it is decided to purchase at a least RSI. The RSI on 3<sup>rd</sup> and 6<sup>th</sup> March are the least and ROC is also negative. The selling decision is made perfectly because the RSI on 24<sup>th</sup> and 30<sup>th</sup> March is 80.90 and 81 respectively and ROC on these days is also positive.
- The RSI of Kotak Bank is not less than or equal to 30 in any of the days taken into analysis, so it is decided to considered the least RSI for purchase. The largest RSI is 43.50 on 15<sup>th</sup> February. The ROC on this day is also negative. The stock has given a gain of Rs 95.05 per share when it is sold on 24<sup>th</sup> March when the RSI is more than 70 and highest at 93.62. The ROC on the selling day is also positive.
- The buy and sell decision in the case of Punjab National bank is not exact as per RSI and ROC. The RSI has never reached 30 or less than 30 in any of the days of analysis. Similarly The RSI has never reached 70 or above. So it is decided to consider the highest and lowest RSI for selling and buying respectively. The least RSI is 31.39 on 28<sup>th</sup> February and ROC on this day is neutral. The highest RSI is on 16<sup>th</sup> March which is not equal to or above 70 but close to 70. The ROC on this day is positive which supports selling.

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- The buying and selling decision of State Bank of India on the basis of RSI and ROC is very perfect. All the purchase days RSI are lesser than 30 and all the selling days RSI are higher than 70. The ROC of all the buying is negative and selling ROC is positive.
  - The investment decision on Yes Bank stocks based on RSI and ROC are not exact. The RSI of stocks is not less than or equal to 30 in any of the days. The least RSI is on 7<sup>th</sup> March at 47.89. The ROC on this day is neutral. The RSI of this stock is almost close to 70 on 30<sup>th</sup> March at 69.17. The ROC of the day is positive

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**THE ROLE OF SEBI IN PROTECTING THE INTERESTS OF INVESTORS AND REGULATION OF FINANCIAL INTERMEDIARIES : A CASE STUDY OF RAYALASEEMA REGION, ANDHRA PRADESH – INDIA**

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**INTRODUCTION**

The three important terms in the title are the SEBI, Investors Protection and Regulation of Financial Intermediaries. The “**Securities Exchange Board of India (SEBI)**” was set up as an administrative body in April 1988 was given statutory status on 30.1.1992 by promulgation of SEBI Ordinance which has since become an Act of Parliament. The SEBI with its over eighteen years of existence has made considerable dent in the Capital market through its various developmental and regulatory measures for investor protection and healthy development and regulation of the capital market.

**The Investors and “Investors Protection”:** A range of investors, of Indian as well as foreign origin and domicile, participate in the Indian market. Domestic investors are free to subscribe to all offerings of securities to the extent made available to them by the issuer and **Investor protection** is one of the most important elements of a thriving securities market or other financial investment institution. Investor protection focuses on making sure that investors are fully informed about their purchases, transactions, affairs of the company that they have invested in and the like.

**Regulation of Financial Intermediaries:** There are a number of financial market intermediaries known as financial intermediaries or merchant bankers, operating in financial system. These are also known as investment managers or investment bankers. The objective of these intermediaries is to smoothen the process of investment and to establish a link between the investors and the users of funds. The SEBI Act provides that stockbrokers, sub-brokers and other financial intermediaries associated with the securities market may buy, sell or deal in securities only in accordance with the conditions of the certificate of registration. SEBI has evolved regulations governing each one of these categories of intermediaries or participants. Typically these regulations specify conditions relating to the size, capital adequacy, business conduct, record keeping and so on. The process of registration and licensing allow SEBI to ensure that those who are associated with the securities trade play by a set of rules governing the trade and have the organizational, financial capacity and, where appropriate, the infrastructure to be able to deliver their contractual obligations. It also allows for collection of valuable data. In addition, SEBI may also issue directions from time to time to intermediaries in the market as well as to issuers so as to protect investors or to ensure proper management of the intermediary’s affairs.

**REVIEW OF THE LITERATURE**

Ravi Singhania & S Venkitaraman (2015) they conducted a study on SEBI Vs Investors Protection and they found that the Section 11 of the Securities and Exchange Board of India Act 1992, which came into force from 13.01.1992 states that it shall be the duty of the Board to protect the interest of the investors in securities and to promote the development of and to regulate the securities market by such measures as it thinks fit. Now that more than 15 years have elapsed since the Act came into force in place of the Capital Issues (Control) Act, which was abolished in the wake of the policy of liberalization announced by the Government, a review is called for as to how far the duty of protecting the interest of investors or development of the Capital Market is fulfilled by SEBI.

promoters group who promote the enterprise and take the risk of huge investments, and being in the control of the company should have analysed the risk of their investments and do not require any education from any government sponsored institution or SEBI for initiating into their ventures. The qualified institutional investors, as the name itself indicates, are institutions, funds, banks, etc who are well qualified to make investments without the guidance of either government or any government sponsored body. The retail investors who are now allowed to invest upto Rs. 1.0 lac in a public offer also are capable of seeking financial advisers for their investments. Hence, the small shareholder is the only investor who require the care and protection of an Organization like SEBI to withstand the vicissitudes of the market fluctuations or the manipulations in the market.

Edgeworth (1888) proposed that financial intermediaries are efficient producers of liquid assets since there is a diversification in the pool of depositories. Liquidity to an economy may be supplied in two ways; One, directly through trade on capital markets; second; indirectly through financial intermediaries. In the first case, liquidity is created by allowing agents with different cash flow needs to trade among themselves claims on productive

assets. In the second case, intermediaries introduce producers and consumers, hold in their portfolio claims on productive assets and issue to individual investors in a secondary market which are tailor made as per their requirement.

### **OBJECTIVES OF THE RESEARCH WORK**

- ❖ To analyze the investors age and gender factors and growth of future of savings and Investment Motivation, Behavior and Experience of Investors in Rayalaseema Region.
- ❖ To identify the Investors Risk Factors, Knowledge and Control over their Investment and to know the Role of SEBI in Protection of Interest of Investors in Rayalaseema Region.
- ❖ To study the investors experience of SEBI Complaints Redress System (SCORES) and to bring out the importance of education and awareness among the investors
- ❖ To analyze the overall strategy of SEBI to promoting, regulating and to strengthen the Financial Intermediaries.
- ❖ To find the role of SEBI in and training and development of Financial Intermediaries in India.(New Issue Management, E- IPO )

### **RESEARCH METHODOLOGY**

The present Case study is primarily based on the primary data and secondary data in nature but for the analysis of the study, SEBI officials, Individual Investors, various Brokers and Sub-Brokers, Financial intermediaries, Invest management experts, and managers of MFIs were consulted. The secondary data was collected from published sources such as SEBI Annual Reports, RBI Bulletin, CME Publications, Finance journals, financial magazines, annual reports Ministry of Finance, Report on trend and progress of MFIs in India, newspapers and websites of RBI, SEBI, NSE, BSE, NSDL.CSDL, and Ministry of Finance, Government of India (GOI).

### **ANALYSIS FOR INVESTORS**

#### **PROTECTING THE INTERESTS OF INVESTORS BY SEBI**

The analysis for the study has been divided into five sections for Investors Survey i.e.

- a. Personal Information Segment
- b. Investment Segments Segment
- c. Risk Segment Segment
- d. SEBI Role and Regulation of Financial Intermediaries
- e. Grievance Redressal Segment

### **PERSONAL INFORMATION**

This section including all the information regarding Age, Gender, Residing places in Rayalaseema Region, Profession and employment and Income levels etc. Statistical techniques like  $\chi^2$ (Chi Square) were used to test the hypothesis in Rayalaseema Region. The same results are presented in appropriate table and also exhibited in Figure.

### **INVESTMENT SEGMENT**

This section to know the following..

- Investor's motivation strategies
- Different Investment avenues,
- Their previous Investment experience and behavior
- Investors DPs

Statistical tools like Mean, Percentage,  $\chi^2$ (Chi Square) were used to test the hypothesis and significance for Investment Segments.

### **RISK SEGMENT**

The third section is to study the Risk Segment which most important and it includes...

- Investor's knowledge about the Investment
- To Know about the Risk Segments
- Investment Strategies

Both the primary and secondary data were used to collect the questionnaire. There were 3 items in the questionnaire. Out of these 3 items 1 to 7, 1 to 5, and 1 to 5 perception statements were provided. For each statement five alternative answers were given on the right side with likert's five point scale. These were strongly agree, agree, neutral, disagree and strongly disagree. To test the significance level and hypothesis both the Rayalseema Region and District wise  $\chi^2$  (Chi Square) were used and the same results are presented in appropriate table and also exhibited in Figure .

### ROLE OF SEBI IN PROTECTION OF INTEREST OF INVESTORS

This section is designed in the questionnaire to help and identify the satisfaction level with respect to SEBI Role and guidelines towards the protection of Interest of Investors thru various statements and each every statement has five alternative answers were given, these are Highly satisfied, Satisfied, Average Satisfied, Dissatisfied, and Highly Dissatisfied. Statistical techniques like  $\chi^2$  (Chi Square) were used to test the hypothesis and significance level in Rayalaseema Region.

### GRIEVANCE REDRESSAL SECTION

This section is to know SEBI investor grievance redressal mechanism. The upgraded mechanism SCORES (SEBI Complaints Redress System) would be a webbased, centralized grievance redress system for SEBI. All grievances will be in electronic mode with facility for online updation of action taken reports by the users. The questionnaire were designed in such a way the investors how best he/she receiving results from the SEBI and accountability towards the all grievance problems etc.

In the following section, the study emphasis the Investment Segments such as before investing into an particular Investment avenue like Equity, Debt, or Mutual Fund etc. humans beings do not always in a rational predictable manner. A an basically an irrational creature motivated by emotions, impulses of the moment, instincts, vague hopes, fears and expectations, uncontrollable desires and greed almost everything but logic and reason. Here is an attempt to highlight certain Segments before investment Decision in Rayalaseema Region there has been five Segments were focused i.e.

1. *Established and Reputations Companies*
2. *Ideas/Recommendations of Brokers/Friends/Portfolio Analysis*
3. *Annual Reports of the Company and related websites*
4. *Financial Process (Business Magazines)*
5. *The Internet (relevant websites related blogs etc.)*

The above five Segments were considered by the investors before investing in a particular investment avenues in Rayalaseema region, the District wise results were presented in the tables and same exhibited appropriate charts.

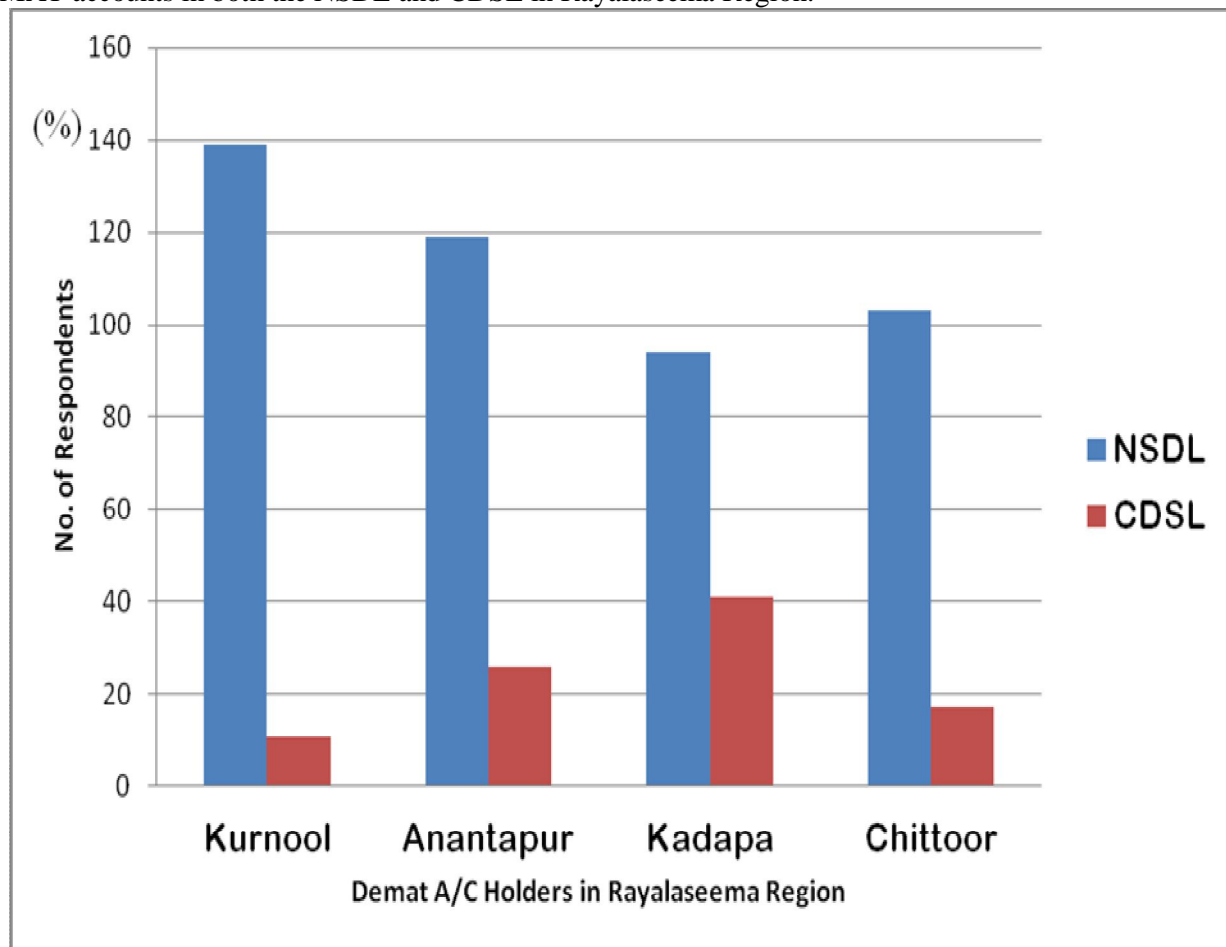
**Depository Participant in Rayalaseema Region**

DISTRICT	DEMAT ACCOUNT		TOTAL
	NSDL	CDSL	
Kurnool	139	11	150
Anantapur	119	26	145
Kadapa	94	41	135
Chittoor	103	17	120
Grand Total	455	95	550
$\chi^2$	27.43200803		
P - Value	P<=0.001		

Source : Field Survey  
 Data Type : Normal Data  
 Test applied :  $\chi^2$  test  
 Level of significance : 95%  
 Degree of Freedom : 3  
 Result : Significant

From the above table it is found that in Rayalaseema Region more than 80% are being members of NSDL (National Securities Depository Ltd) and 20% are being account holders in CDSL (Central Depository Services Ltd.). The sentiment of the investors of holding maximum numbers of accounts in NSDL is because it is the

first Indian depository. But there is significance difference between the districts wise investors were holding DEMAT accounts in both the NSDL and CDSL in Rayalaseema Region.

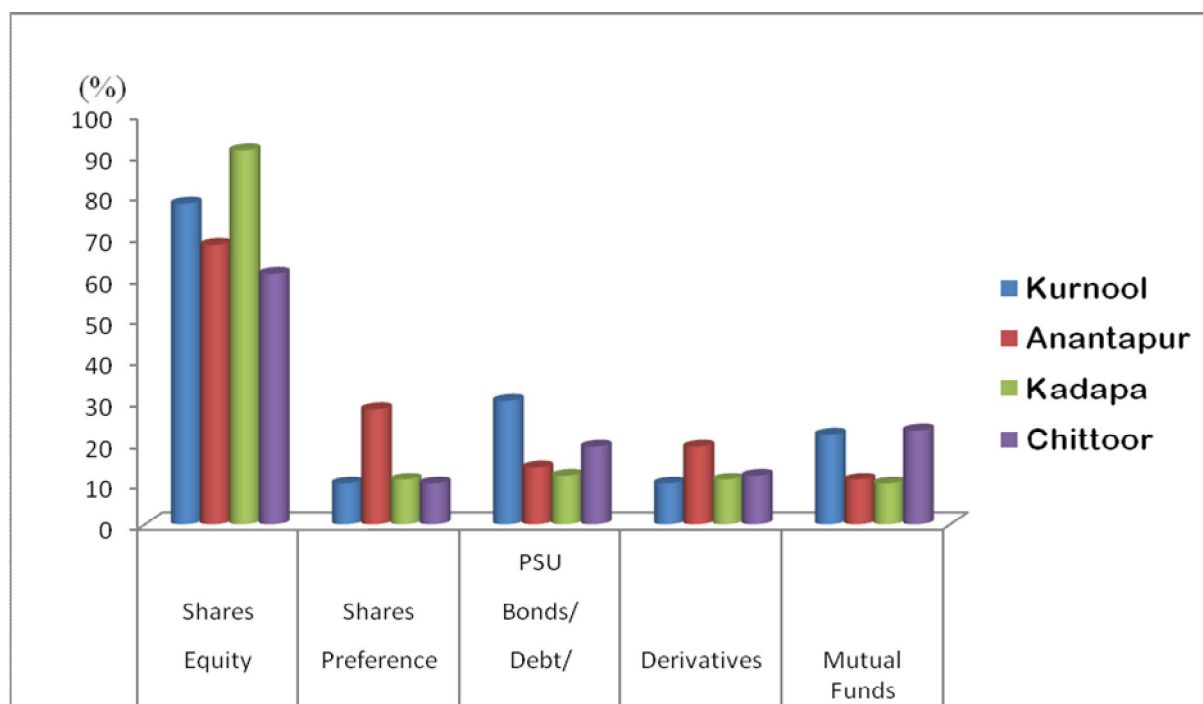


**Investors Investment Options in Rayalaseema Region**

District	Investment Options					Total
	Equity Shares	Preference Shares	Debt/ Bonds /PSU	Derivatives	Mutual Funds	
Kurnool	78	10	30	10	22	150
Anantapur	68	28	14	19	11	140
Kadapa	91	11	12	11	10	135
Chittoor	61	10	19	12	23	125
<b>Grand Total</b>	<b>298</b>	<b>59</b>	<b>75</b>	<b>52</b>	<b>66</b>	<b>550</b>
$\chi^2$	42.99019761					
<b>P - Value</b>	0.00002 significant					

Source : Field Survey  
 Data Type : Normal Data  
 Test applied :  $\chi^2$  test  
 Level of significance : 95%  
 Degree of Freedom : 12  
 Result : Significant

From the above it is found that 54% of the investors are investing in Equity Shares, 13% of investors are investing in Debt/PSU/Bonds, 12% for Mutual Funds schemes, 10% are Preference Shares and only 9% of Investors are going for the Derivative Instruments. From this analysis the investors are expecting High Return and Low Risk and they are expecting risk free securities are also. But there is a lot of difference in selecting and placing the investments in different avenues in Rayalaseema region.



#### INVESTORS GRIEVANCE REDRESSAL SYSTEM

Complaints	District				Total (%)
	Kurnool	Anantapur	Kadapa	Chittoor	
Non-Receipts Dividend/Interest/Rights/Bonus/AMFI Role/Mutual Fund Role	10	21	12	18	61(11)
DEMAT Charges are too heavy	30	31	34	32	127(23)
DEMAT Charges on unlisted or non-traded shares to be removed	5	8	4	12	29(5.2)
Brokerage Commission are too high/transparency	50	43	32	21	146(26)
Shares do not appear in Demat Account so enough/webased Grievance proposal	51	33	47	26	157(28)
Shares sale proceeds do not come to you in time/Investors website response etc	4	4	6	16	30(5.4)
<b>Grand Total</b>	<b>150</b>	<b>140</b>	<b>135</b>	<b>125</b>	<b>550(100)</b>
<b>X<sup>2</sup></b>	46.75190595				
<b>P – Value</b>	0.00004 Significant				

Source: Field Survey  
Data Type: Normal Data  
Test applied:  $\chi^2$  test  
Level of Significance: 95%  
Degree of Freedom: 15  
Results: Significant

From the above in Rayalseema region from total sample i.e.550 investors response is that 26% of the investors are saying that the commission and other charges are too high from company to company in India and 23% of investor were responded regarding annual charges of the DEMAT Account is differ from Broking Company to Company. 11% respondents are Regarding non receipt of dividend and AMFI transparency has to improve and 28% of the investors are not satisfying regarding webbased grievance proposal. 5.4% of the investors are unable to get sale proceeds.

The test results, there is significant difference among the Investors Grievance Redrsslal System in Rayalaseema Region since  $p < 0.001$ . SEBI needs to strengthen Grievance Redrsslal System in order to restore the investor's confidence in stock market in India.



## FINANCIAL INTERMEDIARIES ANALYSIS

The analysis and data interpretation for the for the financial intermediates has grouped into twenty questions is as follows.. And (Leading 50 broking companies were selected for analysis)

1. From question No 1 to 5 including the name and address of the company. Nature and membership of the company and to know the whether the company belongs to fee-based or advisory financial Intermediaries or asset based intermediaries.
2. Question No 6 describes that what kind or service rendered by the company to the clients. Today almost all the Broking firm or financial companies has been offering all segments like DP, Trustees, Lead bankers, Merchant Banking activates, Portfolio and Mutual Fund etc. In Rayalseema Region almost all the broking firms has been offering all kind of segments.
3. To know the Role of Securitas Exchange Board of India (SEBI) in Protection of Interest of Financial Intermediaries in India. My study pertains to Rayalseema Region only buy it encompass to rest of Rayalseema Region also. i.e. Question No 7 to 20. The questions in questioner is as under..
  - Role of SEBI for the Training and Development of Market Intermediaries.
  - SEBI Role in Protection of Interest of Financial Intermediaries
  - Inspection of Books and AMFI and MF Regulations
  - Promotion and Regulation of SRO's
  - Prohibition of Insider Trading
  - Investors Education and Training and Vetting Role
  - Commission and Recommendations of Various Committees
  - Penalties regarding violation of norms and Norms for Compulsory delisting of Shares by stock exchanges
  - NSE – Paperless Mode and Large Investors

To know the satisfaction levels for each and every above statement five alternative answers were given in the questionnaire on the right side with five point scale. These were Highly Satisfied, Satisfied, Average Satisfied, Dissatisfied and Highly Dissatisfied. To test the significance level and hypothesis both the Rayalseema Region and Distric wise  $X^2$ (Chi Square) were used and the same results are presented in appropriate tables and also exhibited in Figure.

**Nature and Services rendered by the Company In Rayalaseema Region**

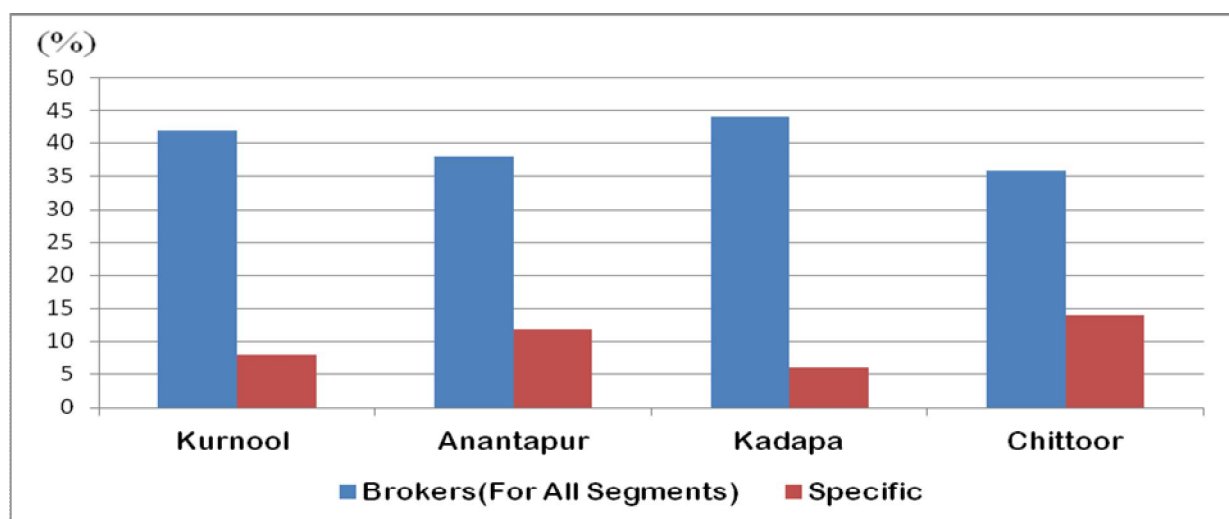
Nature and Service rendered	Districts				Total
	Kurnool	Anantapur	Kadapa	Chittoor	
Brokers(For All Segments)	42(84)	38(76)	44(88)	36(72)	160
Specific*	8(16)	12(14)	6(12)	14(28)	40
<b>Total</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>200</b>
$\chi^2$	5				
<b>P - Value</b>	0.171797				

Source : Field Survey  
Data Type : Normal Data  
Test applied :  $\chi^2$  test  
Level of significance : 95%  
Degree of Freedom : 4  
Result : Significant

<b>*Specific Segments included:</b>
Credit Rating Agencies
Custodians
Registrars to an Issue & Share Transfer Agents
Merchant Bankers
Bankers an Issue
Debenture Trustee
Foreign VCFs
Portfolio Management
Collective Investment Schemes
Underwriters
VCFs
FIIIs
DP
Mutual Funds

**From the above table :** Financial Intermediaries are has been offering different types of financial Segments/Product and services and some of the Intermediaries which are offering only few Specific segments/services to the clients and analysis and interpretation have been made in Rayalaseema Region i.e. . In Kadapa district 88% companies are offering all segments and 12% of the companies were offering only specific segments only. In Kurnool district there were 84% of the companies has been offering in all segments and 16% of the companies are offering only specific segments. In Anantapur district 76% of the companies offering all segments, 14% of the companies are offering only specific segments. In Chittoor District 72% of the companies were offering all segments, 28% of the companies were offering only specific segments only in Rayalaseema Region.

The result there is significance difference nature and service rendered by the Companies in Rayalaseema Region since P Value <0.001.



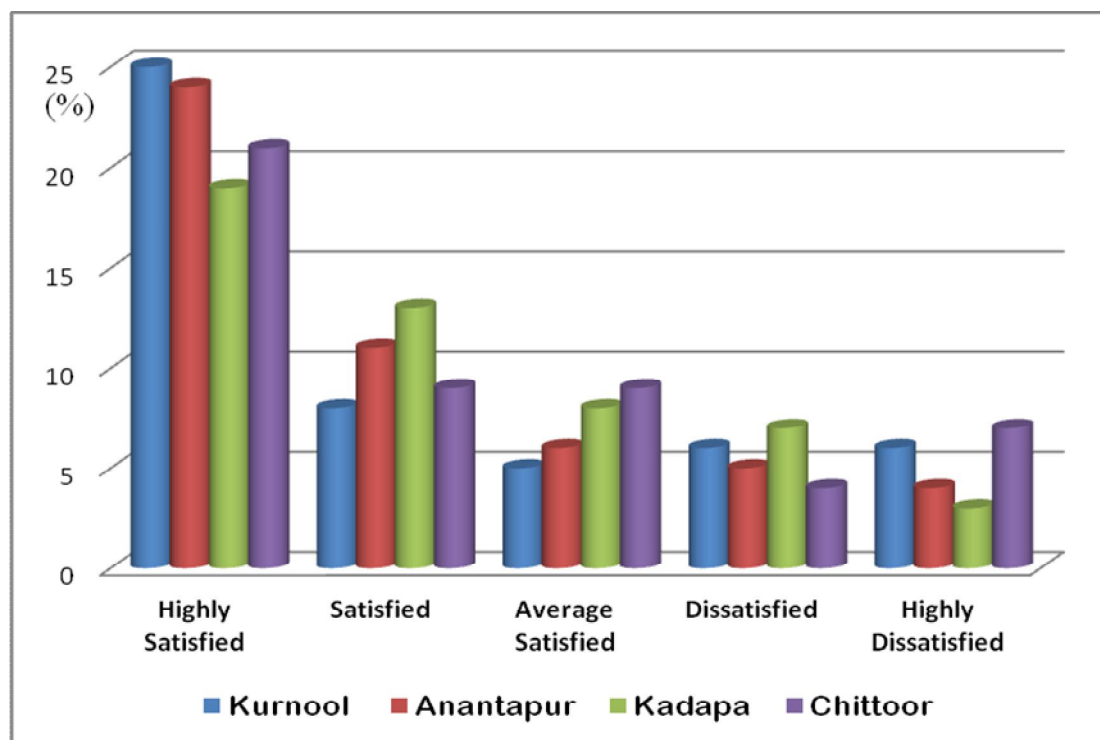
**Role of SEBI and Regulation for Training and Development to the Intermediaries**

District	Satisfaction level					Total
	Highly Satisfied	Satisfied	Average Satisfied	Dissatisfied	Highly Dissatisfied	
<b>Kurnool</b>	25	8	5	6	6	50
<b>Anantapur</b>	24	11	6	5	4	50
<b>Kadapa</b>	19	13	8	7	3	50
<b>Chittoor</b>	21	9	9	4	7	50
<b>Total (%)</b>	89(44)	41(20)	28(14)	22(11)	20(10)	<b>200</b>
$\chi^2$	6.799159					
<b>P - Value</b>	0.870596					

Source : Field Survey  
 Data Type : Normal Data  
 Test applied :  $\chi^2$  test  
 Level of significance : 95%  
 Degree of Freedom : 12  
 Result : No Significant

From the above table the results in Rayalaseema Region is out of 200 Financial Intermediaries responded and their satisfaction level towards the SEBI Role on Training and Development is 44% of respondents were Highly satisfying regarding SEBI Role and Guidelines towards the protection Interest of Investors. 20% of respondents were satisfied. 14% of respondents were average satisfied. But 10% of the respondents were dissatisfied and 10% of the respondents were highly dissatisfied. In overall situation in Rayalaseema Region the Investors Level of Satisfaction is 78% satisfied and 22% Dissatisfaction.

The test results, there is a No significant difference for SEBI Training and Development in Rayalaseema Region since  $p > 0.001$ . The same results are also exhibited in Chart below.



Role of SEBI & Regulation in Protection of Interest of financial Intermediaries

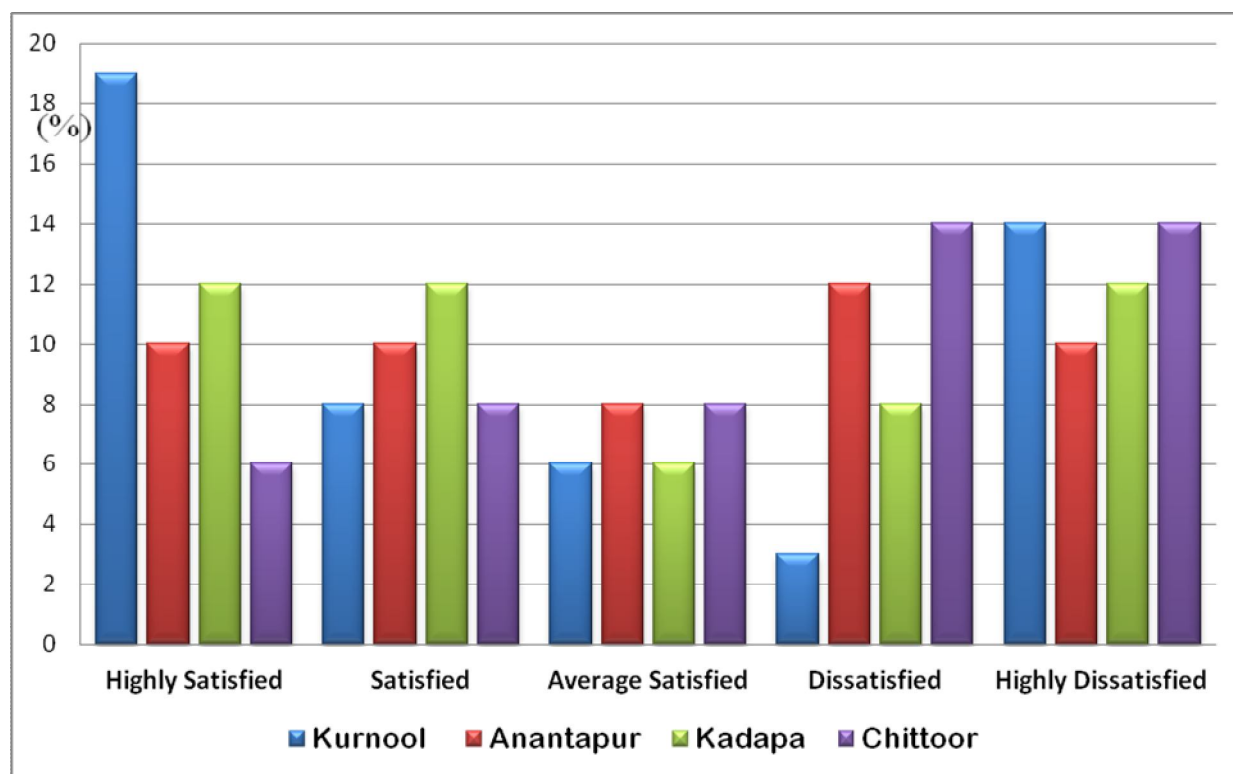
District	Satisfaction level					Total
	Highly Satisfied	Satisfied	Average Satisfied	Dissatisfied	Highly Dissatisfied	
Kurnool	19	8	6	3	14	50
Anantapur	10	10	8	12	10	50
Kadapa	12	12	6	8	12	50
Chittoor	6	8	8	14	14	50
Total (%)	47(24)	38(19)	28(14)	37(18)	50(25)	200
$\chi^2$	0.972517					
P - Value	0.253458					

Source : Field Survey  
Data Type : Normal Data  
Test applied :  $\chi^2$  test  
Level of significance : 95%  
Degree of Freedom : 12  
Result : Significant

In table No : **4.2.8.33** The results in Rayalaseema Region is out of 200 Financial Intermediaries responded and their satisfaction level towards the Role of SEBI in Protection of Interest of financial Intermediaries, 24% of respondents were Highly satisfying regarding SEBI Role and Guidelines towards the protection Interest of financial intermediaries. 19% of respondents were satisfied. 14% of respondents were average satisfied. But 18% of the respondents were dissatisfied. However, 25% of the respondents were highly dissatisfied. In overall

satisfaction level in Rayalaseema Region for Role of SEBI in Protection of Interest of financial Intermediaries is 57% satisfied and 43% Dissatisfaction.

The test results, there is no significant difference for SEBI Role in Protection of Interest of financial Intermediaries in Rayalaseema Region since  $p > 0.001$ . The same results are also exhibited in Chart 4.2.8.33



#### FINDING, SUGGESTIONS AND CONCLUSION

The study was conducted on Securitas Exchange Board of India Role in Protection of Interest of Investor and Financial Intermediaries in India.

The study is focused in two segments i.e. Investors and financial Intermediaries. In investors segment has divided into five sections, in section one studied the Investors personal information including Age, Occupation, Educational Qualifications and annual income etc. In second section aiming to Investment Factors like Investors Investment Motivation Factors, their behavior towards the investment and their past Investment Experience etc. In Third section has been analyzed thru Risk Factor which is how investors are going to face Risk, and to assess the investor's knowledge toward the investment and investment decisions etc. The fourth section is the major part in the study and it including The Role of SEBI in Protection of Interest of Investors and this section comprising many factors which were framed by the SEBI to protecting the interest of Investors and these were analyzed thru Investors satisfaction level and investors perception etc. The final section, which includes the Processing of Investor Complaints in SEBI Complaints Redress System (SCORES)

The second segment including the Financial Intermediaries, this survey were conducted in Rayalaseem Region of Andhra Pradesh. Rayalaseem Region consisting of four districts namely Kurnool, Anantapur, Kadapa, and Chittoor. The researcher were approached all the four district headquarters and also visited the entire district concerned revenue mandals. The survey was conducted with the structured questionnaire, and it comprising twenty questions with four alternative answers, and to assess the SEBI Role towards the Financial Intermediaries, and how the SEBI Guidelines and Regulations are functioning in India.

The findings and conclusions of the study are present below. The discussion ends with suggesting few strategic implementations to SEBI, to strengthen and to achieve the SEBI objectives. However, SEBI should remain to be the "*Most Dynamic and Respected Regulator – Globally*".

#### FINDINGS AND CONCLUSIONS OF SEBI ROLE IN PROTECTION OF INTEREST OF INVESTORS

The overall age distribution is typically expected as the below 25 age group tends to comprise of those who are still pursuing their higher education or have just entered the country's workforce. It is likely that not as many people in this age group could afford to invest in equities. On the other hand, the working age population is

ideally placed to invest as most presumably have been working for a number of years and have thus amassed a certain amount of wealth/capital for investment purposes. After the age of 56, a considerable percentage of the population is eligible for retirement. As pensioners have lesser income, they may be less willing and/or able to invest in equities. This reasoning seems to explain the trends within Table 6.1 quite well. Overall, with five out of the six categories being represented by at least 10% of respondents, findings should provide a fair indication of the actual behavioural tendencies of this investor class along this particular dimension.

Gender, male-dominated Districts are higher in Rayalaseema region and expected to result in even higher proportions of male respondents compared to female respondents in these samples. In fact that more females are not willing to participate in the study. If they are willing the cash handling and dealing of all financial traction in male only and it is customs to Rayalaseema region.

There is a significance difference among the occupation/profession in Rayalaseema region.

It is very clear that the low level income group is interested in investments in stock markers and high level income groups are very interested and they are willing to take risk and they want maximize the wealth as quick as possible in Rayalaseema region hence, There is a significance difference among the Investors Income levels in Rayalaseema region.

Just graduates and Postgraduate are very interesting towards the income generation and searching for Income Avenue and where as Professional groups are not so interesting because they were settled and they will think before investing. Last but not least the below graduates and just educated persons are also lagging because lack of awareness and fear. Therefore, there is a significance difference between the educational qualifications of the investors in Rayalaseema region.

In Rayalaseema Region there is a adequate representation of investors along this dimension, from beginners to very experienced ones. But there is significance difference between the districts wise investors investments experience.

There is significance difference between the districts wise investors were holding DEMAT accounts in both the NSDL and CDSL in Rayalaseema Region.

From this analysis the investors are expecting High Return and Low Risk and they are expecting risk free securities are also. But there is a lot of difference in selecting and placing the investments in different avenues in Rayalaseema region.

It is found that with each districts in Rayalaseema Region being represented by at least 10% of investors (approximately), are having trade experience in a month. But there is no significance difference between the districts wise investors trading experience.

it is found that in Kurnool District Investors Preference are the five factors such as Short term price, long term price hike , Stable Dividend, Speculation/Gambling and Pride/Ego are analyzed with four preference in that 35% are very important, 30% are Slightly Important 18% are irrelevant and 17% are Important in the Kurnool District Investors. But there is a no significant difference in four factors in Kurnool District of Rayalaseema region.

It is found that in Anantapur District Investors Preference are the five factors such as Short term price, long term price hike , Stable Dividend, Speculation/Gambling and Pride/Ego are analyzed with four preference in that 36% are very important, 23% are Slightly Important 20% are irrelevant and 19% are Important in the Kurnool District Investors. But there is a no significant difference in four factors in Anantapur District of Rayalaseema region.

it is found that in Kadapa District Investors Preference are the five factors such as Short term price, long term price hike , Stable Dividend, Speculation/Gambling and Pride/Ego are analyzed with four preference in that 50% are very important, 17% are Slightly Important 17% are irrelevant and 15% are Important in the Kurnool District Investors. But there is a no significant difference in four factors in Kadapa District of Rayalaseema region

it is found that in Chittoor District Investors Preference are the five factors such as Short term price, long term price hike , Stable Dividend, Speculation/Gambling and Pride/Ego are analyzed with four preference in that 56% are very important, 16% are Slightly Important 13% are irrelevant and 11% are Important in the Kurnool District Investors. But there is a no significant difference in four factors in Chittoor District of Rayalaseema region.

There is no significance difference in Investment Risk, Investment Knowledge and control over the investment in Rayalaseema region.

The investors were considering all the five factors their investment in Rayalaseema region and there is no significant difference among the five Investment factors in four districts of Rayalaseema Region since  $p > 0.001$ .

The test results, there is no significant difference among the Nineteen factors in Kurnool districts of Rayalaseema Region since  $p > 0.001$ . From the investors point of view in Kurnool City, overall all the SEBI Role towards protection of interest of investors are satisfactory but some of the issues like Investors Education, Redressal System, Insiders trading Control mechanism, SMAC etc. These are not satisfied by the investor. In this junction SEBI needs to strengthen guidelines and regulation in order to restoring investor's confidence level etc.

The test results, there is no significant difference among the Nineteen factors in Anantapur districts of Rayalaseema Region since  $p = 0.001$ . From the investors point of view Anantapur District, overall all the SEBI Role towards protection of interest of investors are satisfactory but some of the issues like SEBI Advertising Code for Public and Right Issue, Regulation Relates Fraudulent/Unfair Trade Practices, Rolling settlements, Eligibility norms for issuing company, Pricing by companies issuing securities Insiders trading Control mechanism, SMAC etc. These are not satisfied by the investor. In this junction SEBI needs to strengthen guidelines and regulation in order to restoring investor's confidence level etc.

The test results, there is no significant difference among the Nineteen factors in Kadapa districts of Rayalaseema Region since  $p > 0.001$ . From the investors point of view in Kadapa, overall all the SEBI Role towards protection of interest of investors are satisfactory but some of the issues like AMFI Guidelines Eligibility norms for issuing company, Pricing by companies issuing securities Insiders trading Control mechanism, content of the offer documents, Z group delisted shares, Net – Based Purchasing /trading in shares, control of insider trading and SMAC etc. These are not satisfied by the investor. In this junction SEBI needs to strengthen guidelines and regulation in order to restoring investor's confidence level etc.

Rayalaseema region from total sample i.e. 550 investors response is that 26% of the investors are saying that the commission and other charges are too high from company to company in India and 23% of investor were responded regarding annual charges of the demat Account is differ from Broking Company to Company. 11% respondents are regarding non receipt of dividend and AMFI transparency has to improve and 28% of the investors are not satisfying regarding web based grievance proposal. 5.5% of the investors are unable to get sale proceeds. The test results, there is significant difference among the Investors Grievance Redressal System in Rayalaseema Region since  $p < 0.001$ . SEBI needs to strengthen Grievance Redressal System in order to restore the investor's confidence in stock market in India.

## **FINDINGS AND CONCLUSIONS OF SEBI ROLE IN PROTECTION OF FINANCIAL INTERMEDIARIES**

The major finding in second analysis is that the SEBI role towards the Financial Intermediaries in Rayalaseema Region. The researcher were find twenty major finding and arrived relevant suggestion or recommendation to SEBI in order to fulfill the SEBI objectives and the overall strategy and Role to promote and to regulate and to strengthen the Financial Intermediaries. The researches were also finding out to know the role of SEBI in Protection and training and development of Financial Intermediaries in India.

The Broking Companies has been divided into two categories i.e. main intermediaries or sub-intermediaries. it is true that the registration of sub-brokers is being improved in current financial year, there is a lot of variation between the main and sub intermediaries in Rayaseema Region of four District, and some of companies are very interesting for to be su-brokers rather than the brokers. Hence, the result there is significance difference in role of the Company in Rayalaseema Region since  $P < 0.001$

In Rayalaseem Region there is more numbers of Fee – Based or Advisory Financial Intermediary were excising when compare to Asset Based Financial Intermediary. The result there is significance difference role of the Company in Rayalaseema Region since  $P \text{ Value} < 0.001$ .

Financial Intermediaries are has been offering different types of financial Segments/Product and services and some of the Intermediaries which are offering only few Specific segments/services to the clients and analysis and interpretation have been made in Rayalasema Region i.e. 80% companies are offering all segments and 20% of the companies were offering only specific segments only. In district wise comparison it is being differ

from one district to another district. Hence, the result there is significant difference role of the Company in Rayalaseema Region since  $P < 0.001$ .

The findings regarding Training and Development in Rayalaseema Region. In overall impact on Financial Intermediaries Level of Satisfaction is 78% satisfied and 22% Dissatisfaction.

The test results, there is a No significant difference for SEBI Training and Development in Rayalaseema Region since  $p > 0.001$ . But in some district in Rayalaseema Region i.e. Kadapa and Chittoor is unable to reach maximum satisfaction level for training and development rendered by the SEBI.

In overall satisfaction level in Rayalaseema Region for Role of SEBI in Protection of Interest of financial Intermediaries is 57% satisfied and 43% Dissatisfaction has been finding in this factors but it is not favorable effect to the SEBI. If SEBI is going to neglect it the percentage of dissatisfaction level is going to increase to maximum extent. Test findings is, there is no significant difference for SEBI Role in Protection of Interest of financial Intermediaries in Rayalaseema Region.

Findings towards the Role of SEBI in Inspection of Books of Accounts of AMC and Custodians, in overall satisfaction level in Rayalaseema Region is 63.5% satisfied and 36.5% Dissatisfaction, there is no significant difference for SEBI Role in Inspection of Books of Accounts of AMC and Custodians in Rayalaseema Region.

The Role of SEBI in AMFI and Mutual Fund Regulations the researcher has found that in overall satisfaction level in Rayalaseema Region is 73.5% satisfied and 26.5% Dissatisfaction. The test results, there is no significant difference for SEBI Role in Mutual Fund Regulations in Rayalaseema Region since.

Findings pertaining to the Role of SEBI Self Regulatory Organizations (SRO) in overall satisfaction level in Rayalaseema Region for Role of SEBI in Self Regulatory Organizations (SRO) is 76% satisfied and 24% Dissatisfaction. But in district wise comparison it is been showing different there is variation especially Anantapur and Chittoor are showing more dissatisfaction towards this factors. And the results, there is no significant difference for SEBI Role in Self Regulatory Organizations (SRO) in Rayalaseema Region since  $p > 0.001$ .

Findings towards the Role of SEBI on Prohibition of Insiders trading the satisfaction level in Rayalaseema Region, is 76% satisfied and 24% Dissatisfaction. But in Kurnool and Chittoor based Financial Intermediaries has showing maximum dissatisfaction with this factors SEBI needs some have modified regulated guidelines for this factor. Hence the test results, there is no significant difference for SEBI Role in Prohibition of Insiders trading in Rayalaseema Region since  $p > 0.001$ .

Findings regarding Vetting or transparency by SEBI the satisfaction level in Rayalaseema Region are 72.5% Satisfied and 27.5% Dissatisfaction. This is the more important factors to all SEBI registered Financial Intermediaries, in district wise the dissatisfaction level is been increasing SEBI needs to re-regulating to this factors and the test results, there is no significant difference for Vetting Role by SEBI in Rayalaseema Region since.

Satisfaction level towards the M R Maya Recommended Four - Part Model Regarding BROKER CODE. In overall satisfaction level in Rayalaseema Region, is 75% satisfied and 25% Dissatisfaction. The test results, there is no significant difference Brokers Code in Rayalaseema Region.

The results in Rayalaseema Region is out of 200 Financial Intermediaries responded and their satisfaction level towards the SEBI Role on Penalties Regarding Violation of Norms in Rayalaseema Region, is 71% satisfied and 29% Dissatisfaction. The test results, there is no significant difference Penalties Regarding Violation of Norms in Rayalaseema Region.

Findings for SEBI Role on Norms for Compulsory Delisting of Shares by Stock Exchanges in Rayalaseema Region, is 68% satisfied and 32% Dissatisfaction. The test results, there is significant difference in Rayalaseema Region since  $p < 0.001$ . Many of broking companies were not satisfying regarding these norms which SEBI needs to additional guidelines and regulations to restoring FI confidence in the Market.

The major findings in Rayalaseema Region is out of 200 Financial Intermediaries responded and their satisfaction level towards the SEBI Role on Introduction of NSE Paperless mode. 72.2% satisfied and 27.8% Dissatisfaction. Some of the broking companies were opposing with this system because many of the investors unable to access to this system, but some of the broking company are welcoming this system and there were happy with this system. Therefore, FI and Investors needs extensive training and information. The test results, there is no significant difference SEBI Role on Introduction of NSE Paperless mode in Rayalaseema.

SEBI Role on Regulatory Bias toward Institutions/Corporate Sector and Large Investor. In Rayalaseema Region is Large Investor 67% satisfied and 32.5% Dissatisfaction. The test results, there is no significant difference SEBI Role Regulatory Bias toward Institutions/Corporate Sector in Rayalaseema Region. SEBI is been taking many measures and regulating towards the small investors but it needs and required some of the additional guidelines and regulation for strengthen the small investors in Indian stock market.

Last and Major findings in this study the Overall SEBI Regulation and Guidelines, In overall satisfaction level in Rayalaseema Region, Overall SEBI Regulation and Guidelines 57% satisfied and 52.5% Dissatisfaction. Which means the satisfaction level is very poor. In overall all Financial Intermediaries were not happy with the SEBI Regulation and Guidelines. They need revised regulation and guidelines etc. all the requirements has mentioned in the suggested or recommended for necessary action by SEBI. The test results, there is no significant difference Overall SEBI Regulation and Guidelines in Rayalaseema Region since  $p > 0.001$ .

### **SUGGESTIONS**

- Based on the findings and conclusions of SEBI Role in Protection of Interest of Investors and Financial Intermediaries and the observations of the research the suggestions are offered to SEBI. These suggestions are as follows..
- Only the young middle age groups are very interesting to entering and into market and soon after they are just quit from the market or they can be ideal for some time or they are going to stop trading permanently.
- Regarding middle old age people are not turning into financial market because of no guarantee returns and chance of more loss and normally Indians are inclined to invest household savings in Gold, some of risk free savings like post office NSC, and also keep cash in hand and lockers.
- SEBI need to make awareness to all kind of age group individuals about the role and importance of various financial products and financial markers and there should be more training and awareness camps by SEBI every district head quarters and main revenue divisions so that to guide the investors how to invest in stock market and what are the Various formalities that must comply with. This will encourage investment in financial markers.
- Males are investing more in stock market as compared to female. But to today in Rayalaseem Region there is Micro finance and Self Help Group mania going on and these women are saving corers of money in their regional banks if SEBI takes necessary steps to encourage women to entering into stock market there is tremendous growth in all aspects. And domestic investment participation should be increased, given more weightage and Household and Self Help Group savings participation in Capital Market to be taken up from 9 to 10% by 2011
- Well settled and high income group individual has been entering into to the financial market but regarding the small investors who are getting less income, they lost faith in the capital market due to continuous crashes in the market and scams. Therefore to encourage the small investor to continuous investment in the market and restore the small investor confidence on SEBI and capital market, SEBI need to have strong regulations regarding scams and relevant information regarding market crashes and how to overcome from it etc.
- Only graduate were more interesting in the stock market, professional and below graduates were not seeking investments in stock market because professional may having lack of time or too knowledge about it, regarding below graduate or land lord they don't have full knowledge and clear information about the stock market just they completely depending on the stock broker decision only. In this Junction SEBI has to appoint one regional executive or agents for making awareness and dealing the stock market proceedings etc.
- Investment motivation factors, Investors Investment Behavior and Experience concern there is a more dropout in the financial market no one don't having more than 10 years trading experience, SEBI has to curb the dropout by making awareness and techniques for long lasting trading in the financial market.
- There is only two depository participant are functions some of the investors suggesting that there is some more DP. Numbers of Investors are consults the brokers or agents to seek information and advice for investment decision only for Equity, Mutual Fund and Debit they are not even knowledge about derivative market and other financial instruments which are traded in the market should merely be based on agents advice rather the decision should be based on their careful investigation.



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- SEBI has to advice to the listed companies or issuing firms to make large publicity and toll free numbers for free counseling and guidance purpose and rating agencies are also make large publicity regarding to this issue.
  - SEBI has to make guidelines for trading only investors presence only the brokers has to trade and operate the investors account in orders to increasing trading activity by the investors.
  - Investors are expecting stable dividend and short term price increases, SEBI has to fulfill the investors expectations by controlling and regulating prompt dividend payment by the companies and to controlling gambling and speculative activities in the market. Investors are going lost money due stock market crash in any segments Equity or Debt or other instruments for that SEBI has to implement the following
    1. Curb the price manipulative practices,
    2. Strong punishments and penalty to Brokers for violation of rules and regulations
    3. All the companies must be maintain good corporate governess in order to maintain the transparency
    4. Information of corrupted companies in mass advertisements
    5. Make awareness international economic environment factors and their impact on the Indian stock market like Oil price hike, inflation, exchange rate and interest rate etc.
    6. Effective utilization Investors Education Protection Fund (IEPF) and to make awareness among all the investors and there should transparency regarding IPF utilization. Therefore, the investors, does one really need to worry about this Indian stock market crash or scams.
  - Investors risk, knowledge and control over the investment point of view only few investors Obviously Investors are rational and prefer less risky investments to risker. Investors are quite often facing Investment loss due to many external factors which are beyond control of investors and this segment is contributed 15 to 23% and it is very high. 13 to 20% of the investors are feels that they only responsible for personal Investment decisions or financial planning. (Table No. 5.3.16 to 5.3.19).
  - Therefore, SEBI need an extensive advertisement and each and every financial instruments information and more information regarding external forces which are badly adverse impact on the stock exchanges to mange all above thins SEBI has to develop a software in the SEBI official website for Investment Plan and how to behave while market in adverse situation all the things the investors may come to thru a trail version software.
  - For personal financial planning and fixed income strategies purpose many investors were approaching some of internet based financial planners, but there is a chance to the investors to lose the money and wrong recommendation and advice for investments decision so to avoid and to protect the interest of investors SEBI needs has implement in a specialized software for investment knowledge and financial planning.
  - All the investors are not aware of the guidelines and regulations which is farmed by the SEBI and after my approach only they come to know the all the fact. Some of the Investors opinion is that SEBI has to delegate some segments to other regalities so that each and every guidelines and regulations may be reaching to all.
  - SEBI's rules and regulations issued quite often thru circulars and press note but it is suggested to that SEBI hast sent mail or circular to all the investors Email IDs for effective functioning of the rules. But some of the districts in Rayalasseem Region they don't have any idea about the SEBI Code and investors protections guidelines. For that SEBI needs to organize frequent workshops and seminars to make full awareness among the investors and other individuals to encourage to invest in the stock market and to make awareness among about the financial instruments or products in order to maintain SEBI has a strong role on to protection of interest of investors.
  - There should be local tribunals that deals with the problems of investors in different districts of state, because we see very few people approach SEBI Complaint Redress System (SCORES) thru on line and having a toll free numbers or company law board and they go to exchange cells as per their convenience, so the people living away from exchanges, prefer to not filing complaint
  - Various grievances regarding Demat Charges, DP etc. required to be studied in totality and suggestions and solutions to be arrived in consultation with Investor Associations etc.
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- SEBI has to look into the matter of the Sub and Main Intermediaries, but day by day Sub intermediaries and broker is been increasing due to registration fee and too legal formalities and getting delay for registration process. SEBI needs to simplify the registration process and to encourage new and main intermediaries.
  - SEBI has to take care about the Training and Development of Financial Intermediaries and it has to compulsory, because many operators and brokers they don't have full knowledge about the SEBI rules and guidelines may of the brokers were working as a tailored mad work environment. Therefore, to make awareness all the rule and regulations for the Financial Intermediaries training and development is mandatory.
  - SEBI need to encourage Asset Based Financial Intermediaries. And it has to advice to all Financial Intermediaries has to offer Segments/Product and services. It is been Suggested to SEBI regarding Inspection Books of Accounts has to take maximum effort for better transparency and restoring the investors confidence.
  - SEBI has to frame some more regulations for Asset Management Companies in order to make full awareness among the small investor for all types of Mutual Fund Schemes so that the asset management companies can provide the right kind of need base solutions to their Investors. Then the small investors are willing to invest in mutual funds irrespective of its occupation and time frame
  - Self Regulatory Organizations (SRO In overall satisfaction level in Rayalaseema Region for Role of SEBI in Self Regulatory Organizations (SRO) is satisfactory but dissatisfaction level is been also increasing SEBI need to re – regulate SRO for better performance.
  - Insiders trading is slow poison to stock market SEBI is been taking maximum measures to controlling it but still it is prevailing in the market. The investor's opinion is that SEBI has to take rigors punishment and high penalty who are practicing of insider trading activates in the financial market. In this junction Investors are pleasing to the SEBI the particular person or firm who are in insider trading practices should be vanished from the market permanently.
  - Transparency or vetting guideline must be strengthened. So that SEBI can achieve the objective like to protection of interest of investors and Financial Intermediaries in markets all the listed and registered brokers must disclosed all the necessary information to all.
  - There is some more additional adjust for M R Maya Recommended Four - Part Model Regarding BROKER CODE. Because 20 to 30% are not satisfying with this code SEBI need open debate on this issue and make necessary adjustments and guidelines for better performance in the market and do quality service to the investors. An SEBI need strong and strict norms for Brokers who are violating the norms. SEBI need to giving the guideline and support for implementing Paper less exchange in all the regional exchange.
  - Investor's and Financial Intermediaries has to participation in Decision making process, it should be made mandatory, compulsory to invite all Investors, Investors Associations to participate in decision making process connected with Capital Market. A system to be developed at all levels including informal discussion, Conference, Seminars. MEA, DCA, RBI, SEBI to come together to prepare guidelines for the same.
  - The overall performance of the SEBI regarding Financial Intermediaries in Rayalaseema Region is satisfactory but in district wise comparison it is not up to the mark, SEBI need lot of structural changes regarding all the rules and regulations, some most important is as follows..
  - Parliament and Government of India must undertake evaluation of functioning of Indian Regulatory System.
  - Public Debate is initiated for Accountability, Transparency, and Co-ordination, and if it should be a Single Regulator - Super Regulator and we can find simplification of Regulatory process and overlapping regulatory provision should be cleared at one stroke
    - Improve the Investors Knowledge about the financial market instrument
    - To encourage all kind of age group individual to entering into stock market especially self –Help group female Investors.
    - Better utilization of Investors Education Protection Fund
    - Implementation of local tribunals for grievances purpose.
    - To increase registration of intermediaries rather than sub intermediaries
    - To encourage all the broking firm has to implement all service to the client.
-

- Training and Development must implement in every district head quarter and related district revenue divisions.
- India has several Regulators. The Regulatory System available in very few metro cities. Investors spread all over India finds it inaccessible, unapproachable. Get lost in regulatory mechanism. To overcome this problems SEBI has to take necessary steps as follows..
  - Education of Investors regarding Grievances Redressal System
  - One lead Regulator may be provided in each District of India.
  - SEBI or DCA shall be given the responsibility to receive all / any grievances connected with Security Market and should pass it to the concerned Regulator.
  - All over India finds regulatory system is inaccessible, unapproachable. Get lost in regulatory mechanism.
- In all regulatory bodies, Stock Exchanges, i.e. self-regulatory organizations, Director from all the connected communities, i.e. Investors, Brokers, Industries, be selected, appointed as Directors, Member.

And this study needs to encompass to all over the India, for assessing the SEBI role exactly how it is functioning and performing in the India. In Region wise comparison in Andhrapradesh at Rayaseema Region is showing the Role of the SEBI in Investors point of view is satisfactory but district wise comparison it is not satisfied. It is same to the Financial Intermediaries point of view. Therefore, this study has spread all over India *for keeping our SEBI is to be the most Dynamic and Respected Regulator – Globally.*

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## **M-COMMERCE: NEW GENERATION**

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### **ABSTRACT**

*India is a fastest growing economy in 21<sup>st</sup> century. Today, technology are changing very fast and people are now become habituate with that. It is a positive side in the development of nation. India is a highest populated country and people are very busy in their routine life. They don't have much time to communicate properly with their family members but mobile has change the scenario. Before many years ago, people used landline devices to communicate but now majority of the people have mobile devices. Mobile is not only helpful in communication purpose only but also it is very useful to business, education, government and too many others. In the year of 2016, 616 million users subscribed to mobile service in India, making it the second largest mobile market in the world. Almost half the country's population now subscribe to a mobile services. It is predicted that, the total number of users will increase and reach up to 330 million by 2020 taking the penetration rate to 68 percent. India is now also the world's second largest smartphone market, overtaking the US in the first half of 2016, with an installed base of 275 million as of June 2016.*

*The main goal of M-Commerce is to finalize that online business shopping experience is well suited to the smaller screen sizes that people see on smartphones and tablets. The current research paper is on "M-Commerce: The Next Generation". The paper focused on current scenario of m-commerce and significant contribution in the online shopping activities.*

*Key words: M-commerce, Characteristics, Applications and Current Scenario,*

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### **INTRODUCTION**

India is a fastest growing economy in 21<sup>st</sup> century. Today, technology are changing very fast and people are now become habituate with that. It is a positive side in the development of nation. India is a highest populated country and people are very busy in their routine life. They don't have much time to communicate properly with their family members but mobile has change the scenario. Before many years ago, people used landline devices to communicate but now majority of the people have mobile devices. Mobile is not only helpful in communication purpose only but also it is very useful to business, education, government and too many others. In the year of 2016, 616 million users subscribed to mobile service in India, making it the second largest mobile market in the world. Almost half the country's population now subscribe to a mobile services. It is predicted that, the total number of users will increase and reach up to 330 million by 2020 taking the penetration rate to 68 percent. India is now also the world's second largest smartphone market, overtaking the US in the first half of 2016, with an installed base of 275 million as of June 2016.

Today people uses a smartphone and also businesses has change the strategy of business. They are trying to attract the customers through mobile phones. Even online companies sell its products and giving services through customer's mobile numbers. So today, new concept of business and commerce arise and it is known as *Mobile Commerce* (M-Commerce). Mobile e-commerce is a term that describes online sales transactions that use wireless electronic devices such as hand held computer network or laptops. These wireless devices interact with computer networks that have ability to conduct online merchandise purchases. Any type of cash exchange is referred to as an e-commerce transaction. Mobile e-commerce may also be known as mobile commerce.

The main goal of M-Commerce is to finalize that online business shopping experience is well suited to the smaller screen sizes that people see on smartphones and tablets. The current research paper is on "M-Commerce: The Next Generation". The paper focused on current scenario of m-commerce and significant contribution in the online shopping activities.

### **LITERATURE REVIEW**

According to Sujata P. Deshmukh, Prashant Deshmukh and G.T. Thampi, The M commerce is the branch of E-commerce technology; in short we can say that, e-commerce transaction carried out using a mobile hand held devices. Today internet is the part of our daily life for communication, business transaction and market transaction, but India is a country of many different languages, only 4% of people know very well about the English language. If M-commerce uses local language, this will not only ensure quickly adoption by the customers but also will be an instant success.

Paul Budde's paper, "Australia -Mobile Data -Mobile commerce and M-Payment" (2010), communication expert, provides the overview of mobile commerce in the Australia and identifies the impact factor that will be

important for the future of the market transaction. Paul resist that, M-commerce market place in Australia is small compare to Asian market.

K.S. Sanjay (2007) states that, Mobile hand held technology is less cost included and also provides a better flexibility and effectiveness to its users. M-commerce is also a subset of E-commerce, but the difference lies that M-commerce uses wireless technology. So it gives flexible and convenient experience

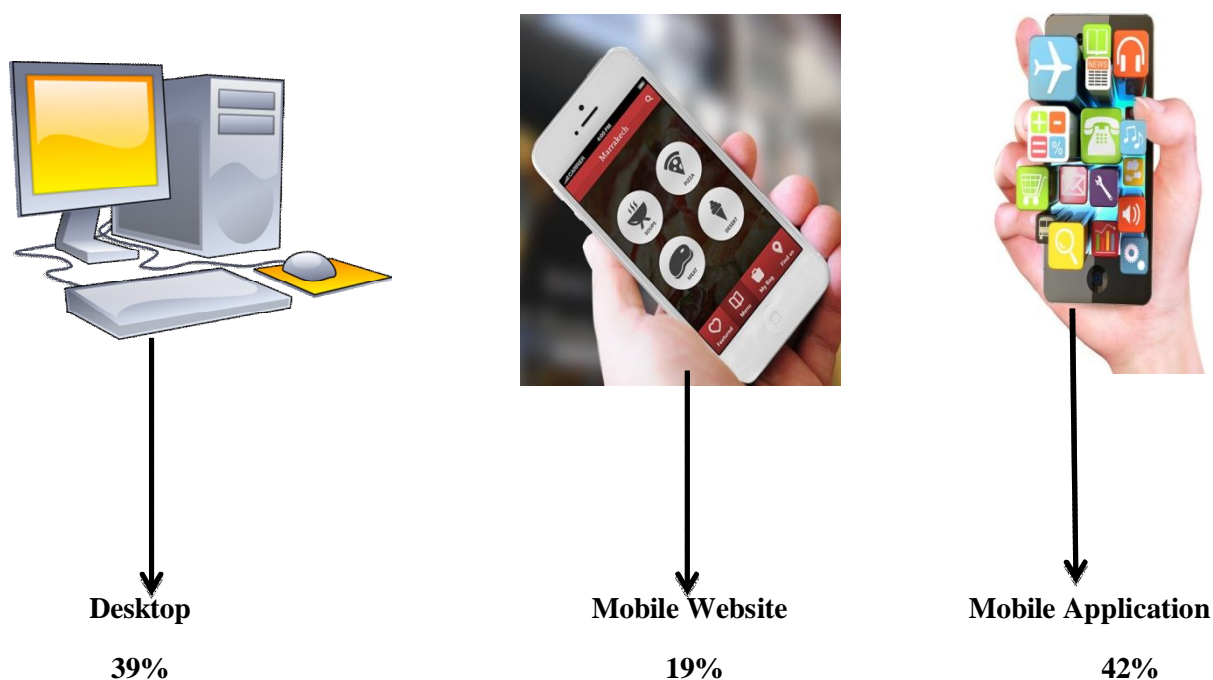
(Gupta & Vyas, 2014) says that m commerce is at emerging level in India and it is complex to adapt. People have started using mobile not only to make phone call but use it for web access, chatting, surfing and also shopping. He has discussed about how m-commerce is developing in India and identified clear context and assistant mechanism. He had discussed about benefits and drawbacks of m-commerce in India, similarly as coin has two aspects so as every technology has.

M Commerce by Lehman Brothers, Ovum, and Forrester, the various devices had been discussed. He had also studied the sales and available users of smartphones in India which shows tremendous increase in the graph although it is new in India. According to him the growth drivers of m-commerce are Instant Connectivity, Personalization factor, mobility Factor, Immediacy, Localization etc.

### NEW FACE OF COMMERCE

M-commerce is the next revolutionary way of doing business after e-commerce, which is set to change the landscape of businesses. The term m-commerce came into existence in 1997 when it was first used by Kevin Duffey at the launch of the Global Mobile Commerce Forum organized in the UK, to mean “the delivery of electronic commerce capabilities directly into the consumer’s hand, anywhere, via wireless technology.

### ONLINE SHOPPING PREFERENCE IN INDIA



Source: [www.dazeinfo.com](http://www.dazeinfo.com)

M-commerce has come a long way from the first service delivered in 1997 (mobile-phone enabled Coca Cola vending machines were installed in the Helsinki area in Finland where the machines accepted payment via SMS text messages) and is driven by a combination of the current trend of electronic commerce (e-commerce) and the emerging developments in personal computing, which has technologically leaped forward from desktops to smartphones; dawning a new era of anytime, anywhere commerce through on-the-go internet/wireless connectivity.

### CHARACTERISTICS OF M-COMMERCE

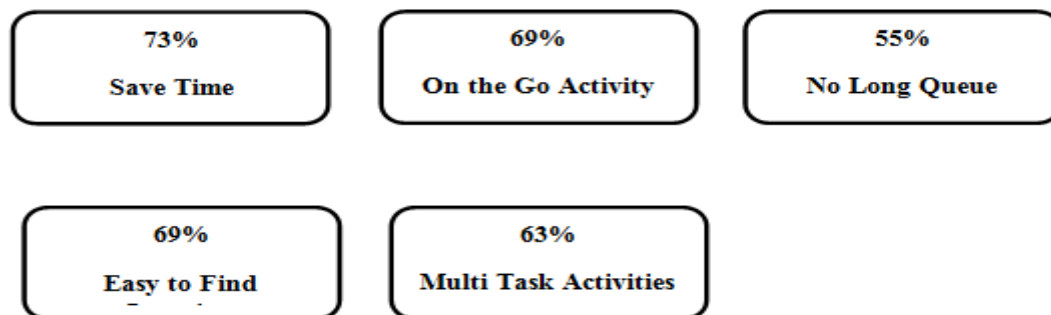
Sr.No	Particular	Details
1	Mobility	Users can carry their cell phones or other mobile devices easily
2	Reach	Users can be contacted anywhere, any time



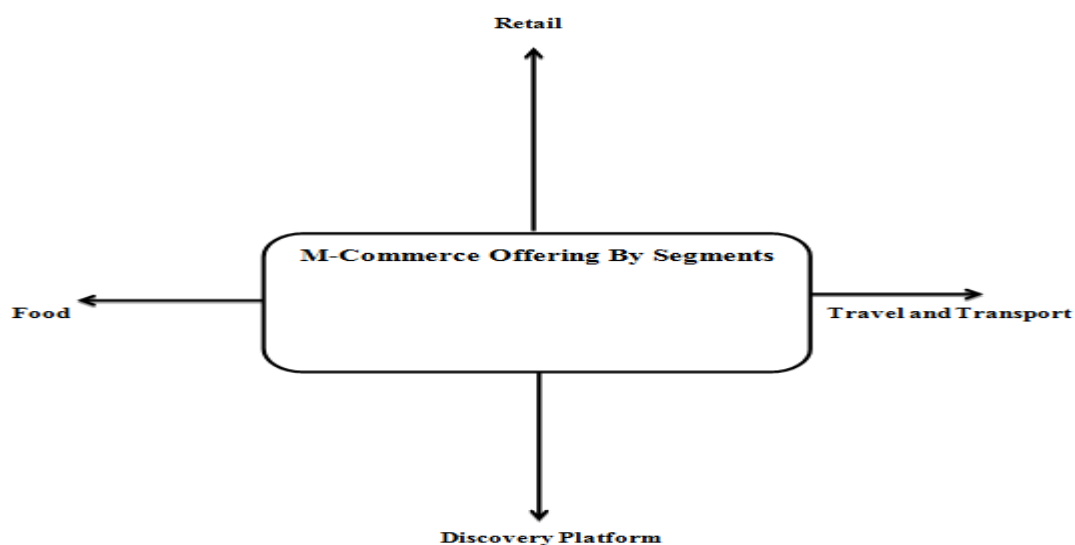
3	Accessibility	Information can be accessed on real-time basis
4	Convenience	Devices facilitate storage of data and has wireless connectivity
5	Personalization	Device owner has an exclusive access to the contents/services
6	Willingness	People seem willing to pay for mobile services
7	Varied users	Kids to teenage to youth to middle aged to senior people
8	Targeted Marketing	Knowing what the user prefers and where the user is located at any given time

Source: <http://www.grantthornton.in>

### KEY REASONS FOR CONSUMER PREFERENCE FOR M-COMMERCE



### EVOLVING M-COMMERCE OFFERING



- Business engaged in retail, groceries, jewelry etc. Many reputed retail companies include Flipcart, Amazon, Snapdeal, Myntra, Jabong etc.
- Business also engaged in transportation and logistics. Key companies like OLA, UBER, Lbibo etc.
- Business also has connection with digital and mobile payment services. Key companies like Mobiwik, Free charge, Pay U Money etc.
- Business engaged in Food groceries. Key companies like Swiggy, Halachef, Tiny Owl etc.

### CONCLUSION

The present research paper is focused on M-Commerce and it reflects that how m-commerce rapidly changes and growing very fast. The reason is easily availability of smartphones from the Indian market. M-commerce is game changer in the future online market. It is a wireless technology and it changing very fast. The enhance of 3G and 4G penetration have opened up new possibilities of m-commerce.

Today, majority of the people preferred to purchase the products from the online shopping and they give order by mobile applications. People also do online payment by mobile applications. People booked travel ticket by mobile applications. So, finally we can say that m-commerce is a new generation and ultimately it is the future of India.

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**CONSEQUENCES OF DOMINANCE BY AN INTERESTED PERSON IN JUDICIAL PROCEEDINGS  
IN INDIAN COURTS : A CRITICAL STUDY**

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**ABSTRACT**

*It is noticed on a number of occasions that a person interested in a specific matter, which is initially discussed and subsequently put to vote, participates in the proceedings of a meeting. Thereafter, by misusing or abusing his position during the course of the meeting, he succeeds in getting the matter decided in his favor, as per the rule of majority. This has resulted in many fields, Politics, Corporate, Education and Corporation, to mention a few. However, this is, no doubt, not only unethical and illegal but it is also against equity and natural principles of justice and fairness. In such situations justice is not obtained in real sense of the term.*

*In this Research Paper, the Researcher has attempted, quite honestly, to study the Consequences of dominance by an Interested Person in the Judicial Proceedings in Indian Courts. In this Research Paper, there is a detail description of a service matter which resulted in Indian Courts.*

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**INTRODUCTION**

It is noticed on a number of occasions that a person interested in a specific matter, which is initially discussed and subsequently put to vote, participates in the proceedings of a meeting. Thereafter, by misusing or abusing his position during the course of the meeting, he succeeds in getting the matter decided in his favor, as per the rule of majority. Even if the chairman of the meeting and some other members are well aware about the vested interest of the concerned person, deliberately, they do not, at all, object and allow the proceedings of the meeting to be carried forward.

This has resulted in many fields, Politics, Corporate, Education and Corporation, to mention a few. However, this is, no doubt, ***not only unethical and illegal but it is also against equity and natural principles of justice and fairness.*** As a matter of fact, such practices lead to unnecessary harassment of the suppressed or minority class at the hands of majority or dominant people. In other words, in such situations justice is not obtained in real sense of the term.

**REVIEW OF LITERATURE**

For undertaking Review of relevant Literature, two sections from The Companies Act, were studied, in detail, in order to ascertain the provisions in this Act as regards 'Interested Person.'

The following two sections, namely,

- (i) S. 299, stating about the '***Disclosure of Interest by the Director,***' and  
S. 300 stating about the '***Interested Director not to Participate and vote in Board's Proceedings,***'  
from the Act were found out, which throw light on the topic of the Research.

**(i) Disclosure of Interest by the Director – S. 299, Companies Act**

Every director of a company who is directly or indirectly, interested or concerned in a contract or a proposed contract entered into or to be entered to, by or on behalf of the company, shall disclose the nature of his interest or concern at a meeting of Board of Directors. In the case of a proposed contract, such disclosure shall be made by a director at the meeting of the Board at which the question of entering into the contract or agreement is first taken into consideration. In the case of any other contract or arrangement, the required disclosure shall be made at the first meeting of the Board held after the director becomes interested in the contract. For this purpose, the Director shall give a notice to the Board to this effect. This is supposed to be sufficient disclosure of interest or concern in relation to any contract so made. Any such general notice shall expire at the end of the Financial Year in which it is given. But it may further be renewed. The notice shall not be of any effect unless it is given at the meeting of the Board or the director concerned takes reasonable steps to ensure that it is brought up and read at the first meeting of the Board after it is given.

**(ii) Interested Director not to Participate and vote in Board's Proceedings - S. 300, Companies Act.**

A director of a company must not place himself in a position in which his personal interest conflicts with his duty. (***Parker V. Mckenna, (18714) 10 ch. App. 96***) This kind of conflict will invariably arise when a director is personally interested in a transaction entered into with or by the company. He must not take part in the discussion of or vote as a director on any contract or arrangement in which he is directly or indirectly interested

unless authorized by the company's articles. In case he votes, his vote would not be counted, also, his presence would not be counted while deciding the quorum for the transaction of business at a Board meeting.

During the course of Review of pertinent Literature, the Researcher also came across a Case Precedent, from the field of Politics, in which *one of the Chief Ministers of a state was interested*. However, in order to evade the possibility of controversy, neither the name of the Minister is disclosed nor the precedent is included in this Research Paper

### **RESEARCH PAPER OBJECTIVE**

The following is the Objective of the Research Paper.

1. To Study the Consequences of Dominance by an Interested Person in the Judicial Proceedings in Indian Courts

### **RESEARCH PAPER SCOPE**

The Practical Scope of the Research Paper extends to the critical Study of the consequences of Dominance by an Interested Person in the Judicial Proceedings in the Indian Courts.

### **RESEARCH PAPER METHODOLOGY**

The following Research Methodology is adopted for writing this Research Paper.

1. The Research Paper is based exclusively on the Secondary Data.
2. Review of pertinent Literature is done to gather secondary Data for the Research in order to understand, in depth, the consequences of Dominance by an Interested Person in the Judicial Proceedings in the Indian Courts.
3. After Review of Literature, the Researcher came across different cases of 'Interest' in different fields, as mentioned above. However, for the sake of simplicity and convenience, it was decided to put forward only a case precedent from an Educational field.

### **TECHNIQUE AND TOOL USED FOR SECONDARY DATA COLLECTION**

A precedent is referred to, in this Research Paper in order to reveal several consequences of Dominance by an Interested Person in the Judicial Proceedings in the Indian Courts.

### **SOURCES OF SECONDARY DATA**

For this Research Paper, the sources of Secondary Data include only a book. The details about the book are included in the Section of 'Categorized Bibliography,' which is located towards the end of the Research Paper.

### **CASE PRECEDENT**

An Assistant Professor working in one reputed Institute affiliated to one of the Statutory Universities was terminated on certain grounds in a meeting in which the Chairman, President and some other members representing the Institute were present. First, as per the standard legal procedure, he filed an appeal before the Hon. Presiding Officer, University and College Tribunal. After one year or so, here, it was held that that it has no Jurisdiction to decide various Questions of Laws rose in this matter.

As per the Maharashtra Universities Act, 1994, the matters for which the Hon. Presiding Officer, University and College Tribunal has no Jurisdiction, the Hon. President, Grievance Committee, University has the Jurisdiction. This is a statutory body constituted as per the provisions of the Maharashtra Universities Act. Thus, thereafter, the Assistant Professor aggrieved by the Judgment of the Hon. Presiding Officer, University and College Tribunal filed his complaint in the prescribed form while paying the requisite fee. Simultaneously, he also filed a writ Petition in the Hon. High Court, against the judgment of the Hon. Presiding Officer, University and College Tribunal.

As per the provisions of the Maharashtra Universities Act, 1994, the Grievance of the complainant should be settled forthwith preferably within the period of six months from the date of filing of the complaint. In the instant case, the Grievance Committee did not decide the complaint within the statutorily fixed time of six months. Aggrieved by this inaction, the complainant was compelled to file another Writ Petition in the Hon. High Court. When this Writ Petition came before the Hon. High Court for admission, the petitioner's advocate attracted Court's attention on the earlier Writ Petition also. The Hon. Judge ordered to club both the Writ Petitions with the permission of the Hon. Chief Justice, High Court.

After the clubbing, as described, was over, when the matter was heard in the Hon. High Court, it was directed to the Hon. President, Grievance Committee, University, to be decided preferably within six weeks. In spite of this direction, the matter was not decided within the period of six weeks. Again aggrieved by this indecision, the Assistant Professor had to file a Contempt Petition in the Hon. High Court against the President, Grievance

Committee, University. After patiently listening to the Petition, the Contempt was accepted by the Hon. High Court and on specific request of the advocate of the Hon. President, Grievance Committee, University, it sanctioned the period of fifteen days to the decide the matter.

Only because of the fear and tension of the attempted or contemplated arrest, resulting from consequent indecision, the Hon. President and other members of the Grievance Committee, University, decided the matter forthwith, strictly on the basis of merit in favor of the Assistant Professor and set aside the termination of the Assistant Professor. At this stage, it is obligatory to learn the legal nature or character of the constitution or composition of the Grievance Committee, University. As a matter of fact, *this committee is, no doubt, a judicial body, but, it is a quasi-judicial body*. Thus, because of its *secondary legal charter, it is only a Recommendatory Body and not a Decisive Body in its legal scope, practical nature and actual consequence*. Its decision, therefore, carries legal weight-age only after its decision is fully approved by the *Management Council*, which is another Statutory Body, constituted under the provisions of Maharashtra Universities Act.

In the meeting of the Management Council, the decision of the Grievance Committee was reversed. Again aggrieved by this decision, the Assistant Professor had no option but to prefer an appeal in the Hon. High Court against this decision. *It was emphasized in the Hon. High Court that one of the dominant members of the Management Council was highly interested in the matter, because he was none other than the Chairman of the Institute himself who was present in a meeting in which the decision of termination of an Assistant Professor was, in fact, arrived at. In other words, a person who was a party to arrive at a specific decision – termination of an Assistant Professor, in one meeting in a specific position as an Institute Chairman was the same person who ratified-confirmed the decision in another meeting of Management Council in a different position as a member. A person who advocated for termination of an Assistant Professor in one meeting as a chairman decided against reinstatement, in another meeting as a member, when the decision of termination was reversed by another Statutory Body- Grievance Committee, University.*

Subsequently, the Hon. High Court upheld the decision of the Grievance Committee and reversed the decision of the Management Council not only on the basis of merit of the Assistant Professor but also on the ground of ‘*Vested Interest*’ of the chairman.

### QUESTIONS OF FACT IN CASE PRECEDENT

After going through the Case Precedent, as above, quite critically, especially because of the Institute Chairman’s attendance at the meeting when there was a matter in which he was interested not only institutionally but also personally, to be discussed, the following unanswered, yet, inevitable *Questions of Fact* crop up.

- (a) Was the Chairman of the Institute of the view that the Assistant Professor would never ever come to know about his interest and subsequent domination in the meeting?
- (b) During the course of the meeting, did the Chairman of the meeting of the Management Council not suspect about a fact that the Chairman of the Institute is representing the interest of his Institute and not of the Assistant Professor, which he is supposed to do in the capacity a member of the Management Council?

Alternatively, is it that the chairman of the meeting of the Management Council did very well know about the illegality regarding Institute Chairman’s attendance in the meeting, but, simply he neglected this fact and protected the interest of the ‘Interested Person’, may be for some direct or indirect benefit or gain?

- (c) Why both the Chairmen, of the Institute and at the meeting of the Management Council, have not cared for the career of the Assistant Professor?

Had at least one out of the two had reasonably cared for him; it could really have saved tremendous hardship, time and money of the Assistant Professor which he wasted for judicial proceedings.

### RESEARCHER’S OPINION ABOUT ‘INTEREST’

In this Research Paper, only a precedent as a Representative Precedent is put forward to exhibit the impact of ‘Interest’ in any Judicial Proceeding. In practice, there may be several such cases happening. In the present case, when the chairman was deeply interested in the matter to be decided in a meeting of the Management Council, he should not have attended the said meeting. Thereafter, he might have dominated the scene while reversing the decision of the Grievance Committee and converting the decision not only favorable to him, personally but also favorable to his Institute.

Had the interested Chairman not attended the meeting of the Management Council, it could have maintained the decision of the Grievance Committee of reinstatement of an Assistant Professor and he would not have required preferring an appeal, consequently in the Hon. High Court.

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**RESEARCHER'S RECOMMENDATION FOR CHAIRMEN**

On the basis of deep scrutiny of some other Case Precedents, in general and the above Case Precedent in particular, besides overall observation about the functioning of several chairmen in different meetings; their casual attitude and approach to conduct the meeting, the Researcher would like to recommend, as under.

The chairman of each and every meeting, irrespective of the fact whether he is acting in such a capacity in an Educational Institute, Company, Corporation, etc., at the start of the meeting itself, should strictly check the interest of all the members present at and forming the part of the meeting. He should proceed with the transaction of business at the meeting only after he is fully convinced about a fact that none of the members present thereat are interested in either of the matters to be discussed in the meeting. He must ask the interested members, if any, to leave the meeting hall, at least, for the time when the matter in which they are interested is discussed and voted at the meeting.

If this Recommendation is strictly followed in true spirit by the chairman of any meeting, as mentioned above, at last, it would definitely help to avoid the hardship that would be caused to the minority or the suppressed.

**RESEARCH PAPER LIMITATIONS**

The following are the limitations of the Research Paper.

1. Only a Precedent is referred to, in this Research Paper for want of its length in order to reveal several consequences of Dominance by an Interested Person in the Judicial Proceedings in the Indian Courts,
2. In order to maintain confidentiality of the legal matter as it is still pending in the Hon. Supreme Court for final judgment, the names of the Respondents and the Petitioners are deliberately not disclosed in the Research Paper.
3. As the study for this Research Paper is fully based on Secondary Data, all the limitations of Secondary Data have direct and deep impact on various views formed, questions of facts raised, inferences arrived at and recommendations put forward.
4. As the Research Paper study is based on Researcher's own experiences of some other Court cases, personal views and opinions, intellectual agreement with all the views and opinions is ideally not expected, in practice.

**SCOPE FOR FUTURE RESEARCH**

During the course of the study of this Research Paper, the researcher found out that there is an ample scope and adequate potential for research in future for the following topics related to

1. Measures undertaken to Deal with an Interested Person in a Meeting – An Empirical Study

**Foot Notes**

1. As a precedent described in this Research Paper predates back to the year 2017, the provisions of Maharashtra Universities Act, 2017 are not applicable. Thus, for the precedent, the provisions of Maharashtra Universities Act, 1994 were applicable.
2. In order to evade possible controversy, Case Precedents from the fields of Politics, Corporate or Corporations are not included in this Research Paper.

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## EMPOWERMENT AND WOMEN ENTREPRENEURSHIP IN TRIBAL AREA [A CASE STUDY FOR INDORE DIVISION OF MP]

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### ABSTRACT

*With sweeping economic reforms since 1990s, the major challenges as well as opportunities in the Indian economy has created an entirely new concept of development in many areas. Development of women entrepreneurship on rural tribal area is of great significant. With free economy and market economy creating ripple globally, the entrepreneurship among women has become the need of the hours. Women entrepreneurship development should be viewed as a way of not only saving the problem of unemployment factor, but also of overall economic and social advancement of the rural tribal area. Rural development without participation of women is meaningless. Women entrepreneurs are those who explore new paths for involvement and contribution women entrepreneurship have been making a significant impact in all segment of the economy. The paper attempts to analyses the challenge and opportunities of women entrepreneurship in rural area of western Madhya – Pradesh. The western Madhya Pradesh is of mainly dominated by poor rural tribal and along with modern innovation techniques are prevalent among them, hence it is of great importance to conduct a systematic study and analyze the effect of the above mention in such areas in order to establish the guidelines for the development of rural entrepreneurship. The objective of the study is to examine the involvement of these rural women entrepreneurs. The data has been collected through random sampling of 100 women entrepreneurs in the tribal districts of Western Madhya- Pradesh. The significance of the proper hypothesis has been established statistically. The result revealed that the women entrepreneurs of the study area, have a high need for achievement, ability for decision making and future planning but also experience various challenges like, low risk taking, low education level and low mobility. There is also a need for effective research for locating gaps in emerging needs of women entrepreneurship. The implication of the result of this study is bi-fold: firstly it acts as a guideline to the government machinery in order to re-orient their entrepreneurial strategies in the rural area and secondly, it acts as a mirror of the various NGO's and social organizations, working in the field, to review their policies and programmes for the tribal rural development.*

*Key words: Need for achievement, Risk taking ,Tribal development, women entrepreneurs.*

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### INTRODUCTION

Women entrepreneurship is consider to be an important factor for the development of tribal area. The role of women worldwide is undergoing a tremendous change. Women empowerment is recognized universally, as a key element to achieve progress in all areas. In developing countries like, India, economy could play a vital role in coping with various socio economic problems. Widespread unemployment is one of the gravest problems confronting the Indian economy. The problem of unemployment can not be resolved, unless the tribal women are trained and involved in entrepreneurship oriented jobs.

Women contribution almost half of the tribal population in the tribal areas. Women entrepreneurship has a great potential in empowering women and transforming society. The sustainable development of tribal area is possible only if each rural household is provided with profit oriented employment. In this regard, women entrepreneurs play un important role to generate additional income and to create move employment in tribal economy. So an attempt can been made to analyze some of the significance aspects of women entrepreneurs in tribal areas.

### NEED FOR WOMEN ENTREPRENEURSHIP

Entrepreneurs have played and playing a crucial role in the socio-economic development of tribal areas. According to Gunderson-"Not resources, not protestant ethic but entrepreneurship explains economic growth", The availability of entrepreneurial skills is an vital assets and an instrument for economic growth. Entrepreneurship among women in the tribal economic, is significant on the following grounds -

- (a) Proper utilization of available human resources.
  - (b) It promotes equal opportunities and human dignity.
  - (c) It makes women economically self dependent and provides for new challenges for self-fulfillment.
  - (d) It provide more status and respect in the society and raises self confidence.
  - (e) It accelerates the pace of tiny, collage and small industries development.
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- (f) It brings special qualities in women such as innovative approach, dedication, risk taking and patience in the work place.

### **CHARACTERISTICS OF TRIBAL WOMEN ENTREPRENEURS**

Today women have made their mark in different walk of life and are completing successfully despite the social economic and psychological differences. Women have a strong potential in various aspects of economic growth in tribal areas. The researchers found the following characteristics by staying in tribal areas for a long time and by interacting with them from time to time -

- (1) Tribal women like to work in groups and also like to move together.
- (2) They have strong organizational skills.
- (3) They have physical stamina, therefore they can work for longer time.
- (4) Tribal women are usually risk takers and handling the economic uncertainties.
- (5) They think of their daily need. Therefore they sell their goods even at lower price.

### **INTRODUCTION TO TRIBAL AREA IN WESTERN M. P.**

Indore division is a tribal dominated area in western Madhya Pradesh. The division has eight districts, out of these, five districts - Alirajpur, Jhabua, Dhar, Burwani and Khargone are known as tribal districts. The majority of population in these districts belongs to the scheduled tribes. The main tribes in these areas are Bhills and Bhilallas. Alirajpur and Jhabua districts are highly tribal clusters. The majority of population depends upon agriculture as the source of livelihood. Low productivity, low income and unemployment are the basic indicators of the tribal areas. Due to this, from six to ten months in the year, subalterns go for securing employment in urban areas. So, there is a drastic need for expanding and developing the existing entrepreneurial obstacles to exploit the multiple opportunities available in the tribal areas.

### **OBJECTIVES OF THE STUDY**

- (1) To study the factors affecting the development of women entrepreneurs in tribal areas.
- (2) To study the role of women for creation of assets.
- (3) To study the interest of women entrepreneurs in tribal areas.
- (4) To measure the economic success of the sample respondents.
- (5) To study the challenges coming in the development of women entrepreneurs.
- (6) To identify the opportunities for the women entrepreneurs.
- (7) To establish the guide line for the success of women entrepreneurship.

### **HYPOTHESIS**

The hypothesis of the present study is that there are many challenges for the department of women entrepreneurship in the tribal areas.

### **METHODOLOGY**

The study is based on descriptive survey. An interview schedule used for collection of information from women entrepreneurs. Question asked to respondents such as determining factors of women entrepreneurs, problems faced by women, opportunities available for tribal areas etc. The primary data collected from women entrepreneurship of tribal district Alirajpur and Jhabua of westerns Madhya Pradesh. Alirajpur and Jhabua are highly tribal dominated areas, in western M.P., in which Alirajpur district has 93% of scheduled tribes and Jhabua has 83% schedule tribes. The sample size was 100 women entrepreneurs actively engaged in agriculture and allied activities, cottage, small and household industries and service sectors, in which 50 respondents from alirajpur and 50 from Jhabua, were interviewed. The primary data analysis has been arrived at with the help of statistical tools such as percentage, chi-square analysis.

### **ANALYSIS OF SURVEY DATA**

An entrepreneurs is one of the boric segments of economic growth. The emergence of women entrepreneurs and their contribution to the tribal economic is quite visible. The number of women entrepreneur in tribal areas, The primary data analysis has been arrived at with the help of statistical tools such so percentage, chi-square analysis.



### ANALYSIS OF SURVEY DATA

An entrepreneur is one of the basic segments of economic growth. The emergence of women entrepreneurs and their contribution to the tribal economy is quite visible. The number of women entrepreneur has grown over period of time in tribal areas. To know the information about women entrepreneur in tribal areas, the primary data were collected and analyzed here.

### AGE GROUP WISE

Age group wise analysis of respondents shows that 48 percent respondents were 35-45 age group, while 24 percent were 30-35 age group. District wise wise data shows that 54 percent respondents in Jhabua district were 35-45 age group while in Alirajpur district were 42 percent. Only 8 percent were 50 and above age group. It has been observed that the work force is mainly the young.

**TABLE – 1: Respondent Age-Group**

District	Age group					Total
	18-30	30-35	35-45	45-50	50 and above	
Alirajpur	5	14	21	8	2	50
Jhabua	4	10	27	3	6	50
Total	9	24	48	11	8	100

Source : Primary Data

### SOCIAL CATEGORY WISE

The survey data shows that 50 percent respondents were schedule tribe, 28 percent were OBC's and 17 percent were general category. It is clear that schedule tribes entrepreneurs play greater role in tribal areas.

**TABLE-2: Social category of Respondents**

District	Category				Total
	ST	SC	OBC	General	
Alirajpur	32	2	13	3	50
Jhabua	18	3	15	14	50
Total	50	5	28	17	100

Sources : Primary data

### CLASSIFICATION OF RESPONDENT'S BUSINESS

Classification of respondents has been done according to their business under three sectors such as agriculture, cottage and small industries and service sectors. The data shows that 46 percent respondents were working in service sectors, 34 percent in tiny, cottage and small scale industries and only 20 percent were engaged in agriculture and its allied activities. It is obvious that women are highly preferred to work in service sectors such as green marketing, beauty parlor, Boutique , tailoring, Jewellery making etc.

**TABLE-3: Classification of Respondent Business**

District	Agriculture	Tiny/ Small Industries	Service Sector	Total
Alirajpur	12	14	24	50
Jhabua	8	20	22	00
Total	20	34	46	100

Source : Primary data

### FACTORS AFFECTING WOMEN ENTREPRENEUR

Question asked through likard method about the factors affecting the women entrepreneur success, more than 50 percent respondents agree and strongly agree with personal factors, need for achievement, risk taking are innovation, social and cultural and economic factors. It is obvious that personal, social, cultural and economic factors strongly affect the women entrepreneurial behavior which contributes to entrepreneur's growth and success.

**TABLE-4: Factors Affecting Entrepreneurial Development**

Factors	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Need for achievement	44	28	10	7	11
2. Risk tanking	37	25	25	10	3
3. Innovation	23	38	19	12	8

4. Training and education	41	35	20	3	1
5. Economic factor	51	29	5	9	6
6. Social and cultural	24	24	4	18	10
7. Efficiency and communication	18	28	27	14	13

Sources : Primary data

**CHALLENGES FOR WOMEN ENTREPRENEURSHIP**

The women entrepreneurs faced various problem in tribal areas. Such as social barriers. Problem of finance, marketing and information, large of infrastructure and practical knowledge. To know the respondents opinion about these, five scale likert method is used the data shows that 70 percent respondent agrees or strongly agrees with the inadequate market coverage. More than 50 percent respondents feel that shortage of finance, raw materials, power & skill were main challenging for women entrepreneurs. It is obvious that women entrepreneurs are facing challenges in tribal areas.

**TABLE-5: Respondent Opinion about Challengers for Entrepreneur Development**

Challengers	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Lack of market coverage	42	28	14	12	4
2. lack of finance	25	32	13	15	12
3. Shortage of Raw material	32	40	3	15	12
4. Shortage of power	45	33	10	12	0
5. Inefficient management	12	19	49	10	12
6. Lack of skill	13	37	21	18	11
7. Lack of entrepreneur ability	8	21	42	25	4
8. Lack of training facilities	24	29	27	15	5

Sources : Primary data

**TESTING OF HYPOTHESIS**

There are many challenges for the department of women entrepreneurship in the tribal areas.

The above hypothesis has been examined through Chi-square test. The various challenges for women entrepreneurial, have been considered for Chi-square. The calculated value of  $\chi^2$  is 9.13. The table value of  $\chi^2$ , at 7-1= 6 degree of freedom and 5 percent significance level is 12.59 since, the table value of  $\chi^2$  is more than the computed value. Hence there are many challenges for the department of women entrepreneurship in the tribal areas.

**SUGGESTION**

1. Women entrepreneurs should be provided with achievement motivation training and promotional support.
2. Marketing intelligence should be made available to women entrepreneurs.
3. The development of infrastructure in tribal areas such as road, communication, electricity etc. will promote for women entrepreneurs.
4. To provide more practical knowledge for improving the operation efficiency of women entrepreneurs.
5. To secure concession, subsidies and more assistance to women entrepreneurs.
6. To create environment for development of self confidence and hope among women entrepreneurs.

**CONCLUSION**

The study reveals that there is a vast sense of women entrepreneurship development in tribal areas. It is also observed that socio-economic environment of tribals and the opportunities available in the tribal area also influence women entrepreneurship significantly. There is a need for three tier efforts for the development of women entrepreneurs in tribal areas first to create entrepreneurs environment including safety sense among women in tribal area, second changing social attitude towards women and third, to provide proper infrastructure in tribal area.

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**A STUDY ON CONSUMER BUYING BEHAVIOUR OF MARUTI SUZUKI FOUR WHEELER**

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**ABSTRACT**

*The automotive industry in India is one of the largest automotive markets in the world. It had previously been one of the fastest growing markets globally, but is currently experiencing flat or negative growth rates. The majority of India's car manufacturing industry is based around three clusters in the south, west and north. The southern cluster consisting of Chennai is the biggest with 35% of the revenue share. The western hub near Mumbai and Pune contributes to 33% of the market and the northern cluster around the National Capital Region contributes 32%. Kolkata with Hindustan Motors, Noida with Honda and Bangalore with Toyota are some of the other automotive manufacturing regions around the country. Maruti Udyog Limited was established in February 1981, though the actual production commenced only in 1983. It started with Maruti Alto 800, based on the Suzuki Alto k10 car which at the time was the only modern car available in India. In the face of the multitude in fundamental inner and outer changes in the automotive environment it is necessary to identify economic and social drivers.*

*Key words: Consumer Buying Behaviour*

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**INTRODUCTION**

The automotive industry in India is one of the largest automotive markets in the world. It had previously been one of the fastest growing markets globally, but is currently experiencing flat or negative growth rates. India's passenger car and commercial vehicle manufacturing industry is the sixth largest in the world, with an annual production of more than 3.9 million units in 2011. According to recent reports, India overtook Brazil to become the sixth largest passenger vehicle producer in the world. Throughout the course of 2011 and 2012, the industry grew 16-18%, selling around three million units. In 2009, India emerged as Asia's fourth largest exporter of passenger cars, behind Japan, South Korea, and Thailand. In 2010, India beat Thailand to become Asia's third largest exporter of passenger cars.

The majority of India's car manufacturing industry is based around three clusters in the south, west and north. The southern cluster consisting of Chennai is the biggest with 35% of the revenue share. The western hub near Mumbai and Pune contributes to 33% of the market and the northern cluster around the National Capital Region contributes 32%. Kolkata with Hindustan Motors, Noida with Honda and Bangalore with Toyota are some of the other automotive manufacturing regions around the country.

In 2011, there were 3,695 factories producing automotive parts in all of India. The average firm made US\$6 million in annual revenue with profits close to US\$400 thousand. The first car on India's roads in 1897. Until the 1930s, cars were imported directly, but in very small numbers.



The first car showroom in Secunderabad

**HISTORY OF MARUTI SUZUKI**

Maruti Udyog Limited was established in February 1981, though the actual production commenced only in 1983. It started with Maruti 800, based on the Suzuki Alto K10 car which at the time was the only modern car available in India. Its only competitors were Hindustan Ambassador and Premier Padmini. Originally, 74% of the company was owned by the Indian government, and 26% by Suzuki of Japan. As of May 2007, the

government of India sold its complete share to Indian financial institutions and no longer has any stake in Maruti Udyog.

### **REVIEW OF LITERATURE**

Balakrishnan Menon, Jagathy Raj V. P. (2012), shows that due to price differences in Gasoline and Diesel, about one third of the car owners was having diesel vehicles. The result showed that about one seventh of car for the city drive for family usage, while using the second car for office and business usage. Foreign brand cars show clear preference in the Kerala car market.

Ramita Verma, Shubhkamana Rathore (2013), studied the luxury car segment of India. Researches and studies have revealed that the luxury car market is growing at a steady speed of 25 per cent per annum with more and more numbers of luxury cars entering the Indian car market. Luxury cars are preferred by HNI (High Net worth Individuals). HNI wants to differentiate themselves from crowd for various reasons.

### **INDIAN SCENARIO**

Aim at doing things a bit differently and plan to come up with multiple forms of reads, reviews and stories not only on market trends and new product ranges, but also on the journey of automobiles in India from an embryonic industry in the early sixties to potentially becoming the sixth largest Automobile manufacturer in the world by 2015. A number of automotive designs institutes have been conceived and they've come up with exclusive training programs for students, offering to provide them with various skills like sketching, rendering, utilising digital platforms and tools to communicate their ideas and concepts to well trained faculties from around the world.

### **OBJECTIVE OF THE STUDY**

- To find out the consumer buying behaviour of Maruti Suzuki four wheeler.

### **HYPOTHESES**

Ho: There is a significant difference in response to Budget for purchasing a new car of Maruti Suzuki various income groups.

H<sub>1</sub>: There is no significant difference in response to Budget for purchasing a new car of Maruti Suzuki among various income groups.

Ho: There is a significant difference in response on various models of Maruti Suzuki cars between various occupation groups.

H<sub>1</sub>: There is no significant difference in response on various models of Maruti Suzuki cars between various occupation groups.

### **RESEARCH METHODOLOGY**

#### **DATA COLLECTION**

- **Primary data**

The primary data is that which details they collect first time from the market and also use first time in the research. To collect the primary data, questionnaire was prepared and showing information in tabular form is primary data.

- **Secondary data**

Secondary data are those data which are already collected by someone for some purpose and are available for the present study. Secondary data consist of published material, or any other reference material which can be useful in the particular project.

### **RESEARCH APPROACH**

I adopted survey approach for this study because it is best suited for describing and it is only concerned with getting practical knowledge. I made face to face interaction with the respondents and fill up the questionnaire.

#### **1. Research instrument**

My research is based on structure Questionnaire. I have used open ended and close ended questions.

#### **2. Sampling technique**

I have used non probability sampling technique, in that convenient sampling was used in project study, because it was convenient with regards to time, cost and place of the research and also for analysis of the data.

#### **3. Sampling Unit**

The sample units of my research are a consumer behaviour regarding Maruti Suzuki car in Kadi city.

#### 4. Sample size

I have taken sample size of 118 respondents. The sample size of respondents is decided by considering 95% significance level.

#### 5. Sample Method

I have used Non-probability Sampling method in my research.

#### 6. Research Design

I have used Descriptive Research as it describes some market characteristics of the auto mobile market and the consumer behaviour regarding the auto mobiles of the Maruti Suzuki Company among the respondents.

#### LIMITATIONS OF THE RESEARCH

- The study is restricted only to the Kadi city. So, the result may not be applicable to the other areas.
- Limited sampling size.
- The time factor was also limited.
- The availabilities of the information were limited.
- The knowledge about the products and company were also limited.

#### HYPOTHESES TESTING BY ANOVA ONE-WAY

H<sub>0</sub>: There is a significant difference in response to Budget for purchasing a new car of Maruti Suzuki various income groups.

H<sub>1</sub>: There is no significant difference in response to Budget for purchasing a new car of Maruti Suzuki among various income groups.

**Budget and various income groups**

	Sum of Squares	Df	Mean Square	F	Sig.	Related Hypothesis
Between Groups	15.265	5	3.053	2.44	0.125	H0:1
Within Groups	146.25	117	1.25			
Total	161.515	122				

H<sub>0</sub>: A one-way ANOVA was conducted to the significant difference in response to Budget for purchasing a new car of Maruti Suzuki among various income groups.

There is a significant difference in response to Budget for purchasing a new car of Maruti Suzuki various income groups at the  $p > 0.05$  level for two conditions [ $F = 2.44$ ,  $p = 0.125$ ], so here H<sub>0</sub> is accepted.

#### HYPOTHESES TESTING BY ANOVA ONE-WAY

H<sub>0</sub>: There is a significant difference in response on various models of Maruti Suzuki cars between various occupation groups.

H<sub>1</sub>: There is no significant difference for response on various models of Maruti Suzuki cars between various occupation groups.

**Various models of Maruti Suzuki cars and various occupation groups**

	Sum of Squares	Df	Mean Square	F	Sig.	Related Hypothesis
Between Groups	8.256	3	2.752	2.202	0.654	H0:2
Within Groups	146.25	117	1.25			
Total	154.506	120				

H<sub>0</sub>: A one-way ANOVA was conducted to the significant difference in response on various models of Maruti Suzuki cars between various occupation groups.

There is a significant difference in response on various models of Maruti Suzuki cars between various occupation groups at the  $p > 0.05$  level for two conditions [ $F = 2.202$ ,  $p = 0.654$ ], so here H<sub>0</sub> is accepted.

#### FINDINGS

- In recent duration Maruti Suzuki is becoming more and more popular in the automobile industry among the people.

- The Maruti Suzuki Company has produced many cars since last 40 year. But the swift & Wagon R cars are more preferable among the customers.
- I found that, when the customers buy a new car the following main feature are considering like look, mileage, easy availability, price, color, space. In addition to that consumers prefer features like price, easily available and mileage the most.
- People having a higher budget can have purchase different categorized cars of Maruti Suzuki like Ertiga, Ciaz, people having a medium budget can have purchase Wagon R, Swift & DZire, people having low budget can have purchase Alto 800. Occupation is the reason behind the purchasing habits of the car.
- When the customers buy a new car the following main facilities are considered by them. The three facilities are more preferable that discount on the stereo system, spare parts, and accessories by the consumers.

### **CONCLUSION**

After the completion of research I have seen the different aspects of this Research. Also, I have gained some new experience about the consumer research. While surveying I have met a large number of people, with different perceptions, with different nature, and as a result of this I have learnt a lot of things like how to talk with the different people with different behavior. Also the outcome that came out of this research work is that in Kadi SWIFT is the Market leader of the market share and ALTO 800 market share is low compared to swift. Through this research I also come to know that young generation is the potential market for automobile industry.

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**CHARACTERISTICS PATTERN OF FUNCTIONS, FUNCTIONAL HIERARCHIES OF URBAN CENTRES AND IMPACT ON URBANISATION IN DIBRUGARH AND TINSUKIA DISTRICTS, ASSAM**

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**INTRODUCTION**

Urbanization is an important event of modern times. It is essentially related with the changes in urban population and social index that reflects the standard of living and stands as indicator signifying the level of economic growth and development of a country. The increase of literacy, its economic affluence, changes of social customs and life style increase the mobility of the people. All these changes also help to change the occupational structure. Generally urbanization means the gradual in depth shift of occupational structure and social life of the people from primary to secondary and tertiary ones.

Dibrugarh and Tinsukia Districts previously constituting the Dibrugarh District is an emerging urbanized area next to Kamrup District area located in between 27°5' N and 27°58'N and 94°35' E and 96°0' E in eastern most part of Assam south of the Brahmaputra. It is the area where modern life started first in Assam through the establishment of tea gardens and coal and oil industries. First railway lines and trunk roads were initiated in this area during colonial era laying ground for modern urbanization. It covers a total area of 7171 km<sup>2</sup> consisted mostly of plains with scattered hill and hilly area in its eastern and southern margins bordering Arunachal Hills. Since the British period, the area has been a place for urban growth, though the process being a slower one. The region has the second highest number of urban population after Kamrup District where in Guwahati is located. Dibrugarh and Tinsukia Districts have been a functional coherence since the time of development of transport network and associated modern industrial and commercial activities, so it is legitimate to consider these two present districts as a single unique region. The two districts have inseparable functional coherence and unique interdependence in respect of the process of urbanization since inception. But inspite of presence of abundant resources and infrastructure in the region, the emerging trend of urbanization is not satisfactory and also the development process of the region is not fast. So it requires proper investigation in the characteristics pattern of urban function in the region. With this objective and rationale in mind, the topic of 'characteristics pattern of functions and functional hierarchies of urban centres in Dibrugarh and Tinsukia districts' is taken for investigation. It will attempt to find out the character of growth and development of urbanisation with impact on regional development of the region. The study will include all the urban centres viz. Dibrugarh, Tinsukia, Duliajan, Digboi, Margherita, Chabua, Naharkatia, Doom Dooma, Makum, Namrup, Moran, Ledo, etc. Study reveals that the region deserves a unique location and its urban centres have good hinterlands within the region. Dibrugarh and Tinsukia towns act as two main urban nodes within the node's region. Based on differences in range of goods or services, different orders in the functional hierarchy of urban centres can be identified and it also observed that rank size regularity is missing in the region.

**OBJECTIVES**

1. To investigate the characteristic pattern of functions, functional hierarchies of urban centres.
2. To study about rank-size relationship of urban centres in the region.

**METHODOLOGY**

The data are collected from census reports of India from 1961 to 2011, Gazetteer of Lakhimpur Districts and personal data collection. The topic for investigation is taken through intensive library work to find out relevant information's in books, journals, articles, monographs etc. and also assembling personal experiences, theoretical knowledge and imaginations, opinion, observation in the field. Zapf's rank -size Rule is used to see the rank size relationship of towns in Dibrugarh and Tinsukia districts.

**RESULTS AND DISCUSSIONS****CHARACTERISTIC PATTERN OF URBAN FUNCTION IN THE REGION**

The urbanization of Dibrugarh and Tinsukia Districts as it stands today was initially started from a fort on the bank of the river Brahmaputra known as Dibrugarh or Dibrugarh. The Ahom built the fort on the bank of the Dibru, a tributary of the mighty Brahmaputra. British had started the present Dibrugarh Town also with the construction of another large fort nearby. To the site of the former fort area, merchants came by boats for trading purposes and a market sprang up which is known as Purana Bazar (old market). The new market was established in 1907 after Purana bazar has been eroded away by the river (Govt. of Assam, 2007). Later on, residential area of the British developed through establishment of Head Quarter, district offices, medical school,



etc. After development of different mode of transport, economic and other activities, the process of modern urban development started to grow in the whole upper Assam area slowly and very irregularly.

Dibrugarh and Tinsukia Districts deserves a unique location and its urban centres have hinterlands within the region and surrounding Arunachal Pradesh. The historical development of modern economy (table -1) of the region is responsible for the growth of urbanisation.

**Table-1: Dibrugarh and Tinsukia Districts Region  
Inventory of Industry and Industrial Activities through time and space**

Year	Industry and Industrial Activities
1835	First tea garden at Kundilmukh, Sadiya
1840	Tea Industry developed at chabua and later developed in the whole of the region
1866	First oil well at Margherita
1866	Started Construction of Assam Trunk Road No.37.(1922 passenger movement started )
1881	The Assam Railway and Trading company at Margherita
1881	Wood based industry ( saw mill ) at Margherita by ARTC
1881	Railway workshop at Dibrugarh
1882	Dibru- Sadiya railway line and Inland water transport established
1882	Ledo- Coal Field
1884	Margherita Coal Field
1889	Digboi Oil well
1890	Brick industry in Ledo
1893	Digboi small Refinery under The Assam Railway and Trading company
1896	Margherita small Refinery under The Assam Railway and Tradingcompany
1897	Namdang Collieries
1898	Tirap Collieries
1898	Railway connection established with Assam Bengal Railway ( Gauhati to Tinsukia) up to Chittagong and Calcutta ports
1901	Digboi Refinery under Assam oil Corporation Ltd.
1904	Borgolai Collieries
1924	Tipong Collieries
1924	Plywood Factory at Margherita.
1951	Naharkatiya and Namrup Drilling well
1953	Natural gas discovered at Naharkatiya and Moran Oil Field.
1956	Moran Drilling well
1962	Oil India pipe line Project
1962	Oil India Ltd Duliajan and oil well drilling
1962	Namrup Thermal Power Project
1969	Namrup Fertilizer Project
1971	The Assam Petro Chemical Limited,Namrup
1976	NEEPCO Thermal Power Project Kathalguri , Dibrugarh
2007	Gas Cracker Project (BCPL) Lapetkata, Dibrugarh ( not start working)
2014	Plastic Park at Tinsukia ( not start working)

Source: Gazetteer of Lakhimpur District, Internet and personal data collection

From the table no -1 we have seen that inventory of Industries and industrial activities having a forcing on urbanisation of the region. It served some permanent market places where trade was conveniently carried on. Gradually, with the growth of region, the trade operations expanded so much, so that later, not only goods but

‘services’ formed a major part of the manifold economic activities of the people of the region. Thus, people possessing various capabilities immigrated to the region thereby leading the expansion of the region.

Dibrugarh and Tinsukia towns act as two main urban functional nodes within the region. Based on differences in range of goods and services, different orders in the functional hierarchy of urban centres can be recognized. The classification has been done on the basis of 1961 and 2011 census and personal observation based on theoretical frame work which has been seen the changing pattern of functional categories of towns.

**Table-2: Dibrugarh and Tinsukia Districts Region  
Changing Pattern of Functional Categories of Urban Centres**

Nos	Urban Centres	1961		2011	
		Total Population	Functional Categories	Total Population	Functional Categories
1	Chabua	2,533	Trade and commerce	8,788	Trade & commerce cum-services
2	Dibrugarh	58,480	Transport-Cum-Services	1,45,220	Services-cum-trade and commerce cum-transport
3	Digboi	35,028	Industry	33,718	Trade and commerce-cum-industry.
4	Doom Dooma	8,192	Service-cum-Trade and Commerce, Primary Activities	21,469	Trade and commerce.
5	Duliajan	-	Industry	29,350	Industry
6	Makum	-	Trade and commerce cum-transport.	16,875	Trade and commerce-cum-industry-cum-transport.
7	Margherita	-	Industry-cum-trade and commerce.	26,913	Industry-cum-trade and commerce-cum-transportation
8	Naharkatiya	8,877	Services,cum-industry-cum primary Activities	18,924	Trade and commerce cum-industry-cum primary Activities
9	Namrup	-	Industry	15,483	Industry
10	Tinsukia	28,468	Trade and commerce-cum –services	1,15,556	Trade and commerce-cum industry-cum-transport.

Source : Based on Census report 1971, 2011 and personal observation

The Dibrugarh and Tinsukia Districts Region has Dibrugarh and Tinsukia nodal urban centres. Most of its towns engaged in secondary and tertiary activities. These urban centres are distributed heterogeneously because of the layout of transport routes. In Dibrugarh and Tinsukia Districts Region, 74 percent workers are engaged in different activities (excluding marginal workers) in 2001 census. 30 percent people are cultivators which are an important economic activity of urban population of the region but not considered as urban function. Agricultural labourers constitute 7 % out of these populations. There is observed of 1/3 decrease of agricultural workers in town population within 20 years. Of course, it is observed that agriculture is still becoming the dominant occupation in some relatively lower class urban centres having population less than 10,000. Only 2 % workers have been seen engaged in manufacturing, processing, servicing and repairing activities. Most powerful occupation sectors are construction, trade and commerce, transport and communication, storage where about 61 percent people are engaged in this region.

### FUNCTIONAL HIERARCHIES

The hierarchy of the urban centres for Dibrugarh and Tinsukia Districts Region has been calculated both on the basis of the % of population engaged in ‘other services’ and size of population. According to 2001 census, other services category includes all those who have worked more than six months in any field of economic activities other than cultivation as agricultural labourer or in household industry centres. More than 95% of population if

engaged in other services is called 1<sup>st</sup> order, between 90 to 95 % is called 2<sup>nd</sup> order and between 85 to 90 % is called 3<sup>rd</sup> order urban centres. In Dibrugarh and Tinsukia Districts region there are three 1<sup>st</sup> order, eight 2<sup>nd</sup> order and two third order urban centres ( Table -3).

**Table—3: Dibrugarh and Tinsukia Districts Region  
Hierarchy of Urban Centres Based on Function and Size of Population**

Sr No	Service centres	Total workers	Persons engaged in other services	% of persons engaged in other services	Hierarchical order	Hierarchy according to functional size of population & working population	Size of population engaged in trade & commerce
1	Dibrugarh	40,216	37,302	92.75	2	1	1
2	Tinsukia	30,234	27,326	90.38	2	2	2
3	Chabua	8,314	7,537	90.65	2	4	4
4	Naharkatia	5,117	4,640	90.68	2	9	9
5	Duliajan	7,355	7,013	95.35	1	6	5
6	Namrup	5,709	5,475	95.90	1	8	8
7	Doom Dooma	6,463	5,997	92.79	2	7	7
8	Digboi	11,962	11,307	94.62	2	3	3
9	Makum	5,055	4,318	85.42	3	10	10
10	Magherita	7,491	6,809	90.89	2	5	6
11	Moran	2,097	1,969	93.90	2	12	12
12	Ledo	2,429	2,168	89.25	3	11	11

Source: Based on Census of India 2001

From functional point of view devoid of the consideration of size of population, Namrup, Duliajan, Digboi (oil town) are purely industrial town where population related to trade and commerce is very less and are included into first category as per census definition. But in urban science, volume of function and complexity of services cannot be dominant the size of urban population in respect of functional hierarchy in ranking. So, here the size of urban population criterion is considered for scientific determination of hierarchy.

The 2<sup>nd</sup> order centres namely Chabua, Naharkatiya, Doom Dooma, Digboi, Margherita, Moran, etc are distributed haphazardly on all over the Dibrugarh and Tinsukia region and 3<sup>rd</sup> and 4<sup>th</sup> order are on the east and the south-east of the Dibrugarh and Tinsukia towns. All these urban centres are under the influence of districts head quarter towns of Dibrugarh and Tinsukia. These centres are marked by changes in population and concentration of public utility services, but trade and commercial activities have always appeared dominating over other services to emerge them as urban centres in urban hierarchy. Depending on the hierarchical order of these activities, the real picture comes up and urban centres appear in order as given in table-3. Single function is not a scientific basis for ordering urban centres in hierarchy. Among commercial activities, size of commercial population and volume of goods and services are to be considered to find out the real functional picture of urban centres.

### RANK-SIZE RULE

The distance between any two adjacent towns in the same size class fits fairly well the formula  $(P_1 P_2) / D = A$ , in which  $P_1$  and  $P_2$  stand for the populations of the two towns and  $D$  for the distance between them and  $A$  is a constant for any given region. The distribution of towns by size has also been shown to follow an empirical rule, the so-called Rank-size Rule. The regularity in the above relationship was originally observed by Zipf (Zipf, 1941), and later on Berry (Berry, 1961). In Zipf's version the rule states that if all towns in a region are arranged in descending order by population, the size of the  $r^{\text{th}}$  town  $1/r$  the size of the largest town according to the series  $1, 1/2, 1/3, 1/4, \dots, 1/r$ . More analytical work, notably which of Christaller and Losch, based on function rather than on population, seeks to demonstrate a regularity in the town hierarchy, both in the relative numbers of towns serving as local, regional and inter - regional centres and in the consequent ratios of the distance between towns in the several stages of subordination and super ordination of function.

Thus, if on a log log paper the population ( $P_r$ ) of towns of an area are plotted on Y axis and their ranks ( $R$ ) are plotted on X axis, we will get a scatter diagram which will closely form a straight line having a negative slope.

Statistically this regularity can be examined by fitting a regression line of  $\log P_r$  on  $\log R$ . The regression coefficient of this line reflects the degree of primacy in the entire urban system and the coefficient of determination may be taken as a measurement of its goodness of fit to the system of rank-size regularity.

Table-4 gives the population of first towns of Dibrugarh and Tinsukia districts region in 2011 with their ranks. These populations and their ranks have been converted into logarithms and a regression line is worked out to fit in the usual manner as given below.

$\text{Log } x = a + b \text{ log } y \rightarrow$  Regression of  $\text{log } x$  on  $\text{log } y$

$\text{Log } y = a + b \text{ log } x \rightarrow$  Regression of  $\text{log } y$  on  $\text{log } x$

$x = \text{ranks (R)}$

$y = \text{Population (Pr)}$

**Table-4: Dibrugarh and Tinsukia Districts Population Rank Size Relationship, 2011**

Urban Centres	Ran kX	Population Y	Log X= x	$x^2$	LogY = y	$y^2$	Xy
Dibrugarh	1	1,45,220	0	0	5.1620	26.65	0
Tinsukia	2	1,15,556	.301	.090601	5.0628	25.63	1.524
Digboi	3	43,260	.477	.227529	4.6361	21.49	2.2114
Duliajan	4	29,350	.602	.362404	4.4676	19.96	2.689
Margherita	5	26,913	.700	.490000	4.4300	19.62	3.101
Doom Dooma	6	21,469	.778	.6205284	4.3318	18.76	3.370
Naharkatia	7	18,924	.845	.714025	4.2770	18.29	3.614
Makum	8	16,875	.903	.815409	4.2272	17.87	3.817
Namrup	9	15,483	.954	.910116	4.1899	17.56	3.997
Ledo Town	10	11,718	1.000	1.000000	4.0689	16.56	4.0689
Chapakhowa	11	10,320	1.041	1.083681	4.0137	16.11	4.178
Chabua	12	8,788	1.079	1.164241	3.9439	15.55	4.255
Moran	13	8,445	1.114	1.240000	3.9266	15.42	4.374

9.794 8.7185344 56.7375 249.47 41.1993

$$b = \frac{\sum xy - \frac{\sum x \sum y}{n}}{\sum x^2 - \frac{(\sum x)^2}{n}}$$

$$= \frac{41.1993 - \frac{9.794 \times 56.7375}{13}}{8.7185344 - \frac{(9.794)^2}{13}}$$

$$= \frac{-1.5458596}{1.339885477}$$

$$= -1.15372517$$

$$a = \bar{y} - b\bar{x} = \frac{56.7375}{13} - (-1.15372517) \frac{9.794}{13}$$

$$= 4.364423 + 0.8691988$$

$$= 5.233622$$

Thus the equation of  $\text{log } y$  on  $\text{log } x$  is  $\text{log } y = 5.233622 - 1.15372517 \text{ log } x$

Where  $a = 5.233622$  and  $b = -1.15372517$

To draw the regression line  $y$  on  $x$  (line of best fit), we have the linear equation  $y = a - bx$

as  $y = 5.234 - 1.154x$

When in a regression equation ( $y = a - bx$ ) different values of  $x$  are put, we get the corresponding estimated values of  $y$ . This is also termed as estimated  $y$  or  $\hat{y}$

The coefficient of correlation  $r$  can be found out as follows—

$$r = \frac{\sum xy - \frac{\sum x \sum y}{N}}{\sqrt{\sum x^2 - \frac{(\sum x)^2}{N}} \sqrt{\sum y^2 - \frac{(\sum y)^2}{N}}}$$

$$= \frac{41.1993 - 9.794 \times 56.74}{13} \div \sqrt{8.7185344 - \frac{(9.794)^2}{13}} \div \sqrt{249.47 - \frac{(56.74)^2}{13}}$$

$$= \frac{41.1993 - 42.75}{\sqrt{8.7185344 - 7.378649} \times \sqrt{249.47 - 247.6482769}}$$

$$= \frac{-1.5507}{1.56234}$$

$$= -0.9925$$

$$= -99.25 \%$$

To find out  $t$  (Significance test of Correlation Coefficient)

$$t = r \sqrt{\frac{n-2}{1-r^2}}$$

$$t = r \sqrt{\frac{13-2}{1-(-0.99)^2}}$$

$$t = .99 \sqrt{\frac{11}{1.98}}$$

$$t = 2.33$$

The coefficient of determination of this equation was found to - 0.9925 to i.e - 99.25 % variations in log Pr are being explained by log R. This is a very low level of explanation. If 't' is greater than the tabulated 't' the correlation coefficient is said to be 1% level of significant and the population correlation coefficient between the two variables in this case is not considered to be zero. The result shows that there exists a negative relationship between the rank and population size.

The original equation from the values of the constants as found above can be written as  $Pr = 171246^{-1.15372517}$  ( as per table -5 )

If in equation we put  $R=1,2,3,4$  and  $5$ , etc we get the population of cities ranking 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> etc. according to the rank - size rule. Actual population of the towns may not be equal to these estimated populations, as no town system fits completely into a rank size rule. At the same time if the coefficient of determination is low, the difference between actual and estimated is supposed to be very large.

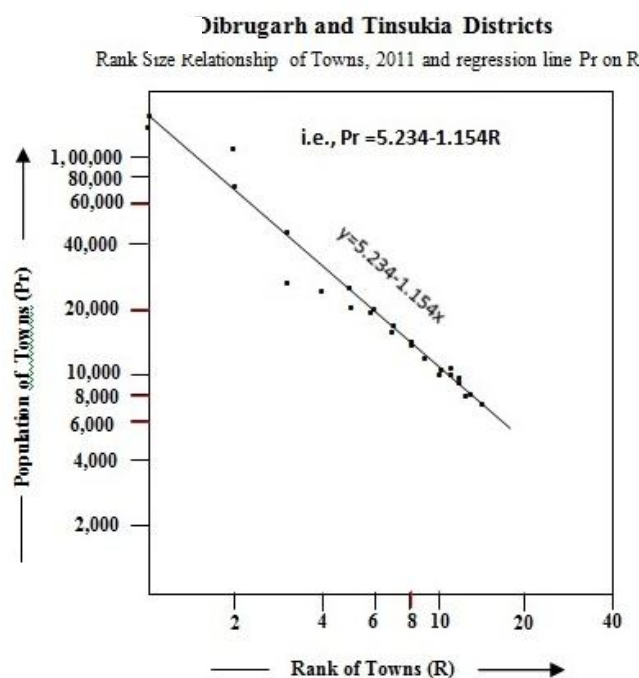


Fig-1

**Table-5: Dibrugarh and Tinsukia Districts Region Actual and Estimated Rank Size Population, of Urban Centres, 2011**

City	Rank	Estimated Population	Actual Population	Difference	% difference
Dibrugarh	1	171246	145220	+26026	+15.20
Tinsukia	2	76964	115556	-38592	-50.14
Digboi	3	48211	29350	+4951	+10.27
Duliajan	4	34595	26913	+5245	+15.16
Margherita	5	26758	21791	+5289	+19.77
Doom Dooma	6	21676	21469	+2752	+12.70
Naharkatia	7	18140	18924	+1265	+6.97
Makum	8	15567	16875	+84	+0.54
Namrup	9	13569	15483	+1851	+13.64
LedoTown	10	12017	11927	+299	+2.49
Chapakhowa	11	10770	11718	+450	+4.18
Chabua	12	9741	10320	+953	+9.78
Moran	13	8882	8788	+437	+4.92

These results are given in Table-5 with actual populations and the deviations have been worked out here on the basis of the relationship between 13 towns. From the above results it is seen that rank size regularity is missing in Dibrugarh and Tinsukia Districts Region as in whole of India ( Ghosh,1998). But the centrality though irregular, exists in functional hierarchical forms which have not any definite mess of hexagonal network, but have some irregular pattern not fitting with the theoretical framework of western world (Berry and Garrison, 1958).

## CONCLUSION AND RECOMMENDATIONS

To conclude the present work on characteristics pattern of functions and functional hierarchies in Dibrugarh and Tinsukia districts, it is perceived after a pretty long discussion that the problem is simple in appearance, but complex in nature. Urbanization is a process of development of an area that is not only a physical aspect but also a functional one. Resource and industry oriented towns have no natural growth and always dependent on the arrangement and management policy of the resource and industry. Normal process of urbanization takes the course after establishment of certain germinating aspects of development. Dibrugarh and Tinsukia districts thus came to the natural process of urbanization after development of its tea industry, transport and communication system and history of development of resource points. This type of study requires for understanding the

problem of urbanization based on different type of resource with a backward infrastructure of development in the region. The region deserves a unique location and its urban centres have good hinterlands within the region. Dibrugarh and Tinsukia towns act as two main urban nodes within the node's region. Based on differences in range of goods or services, different orders in the functional hierarchy of urban centres can be identified and it also observed that rank size regularity is missing in the region.

A well-organized monitoring, planning and implementing unit in the administration is required all the time which will work to generate data, plans etc. necessary for understanding the process of urbanization, peopling, implementation and administration of plans to attain at better goals.

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**CHALLENGES AND OPPORTUNITIES IN SOCIAL WORK PROFESSION: REFLECTING ON TEACHING & PRACTICE**

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**ABSTRACT**

*Social work is an evolving activity both in the practice and academic domains and it is not surprising, therefore, that diverse opinions about the profession's identity, preferred practice methods, research endeavors, educational standards and future goals should be expressed on a regular basis. Even though some social work academics find debates on these issues repetitive and tiresome, an ongoing discussion on these and the other important matters affecting the profession should be welcomed.*

*Globalization has changed the world in which we live. Social workers witness the challenges for individuals, communities and societies that are resulting from this rapid transformation of our world. Social work is a practice-based profession and an academic discipline. The curricula of Social work are increasingly subjected to the priorities of governments, requirements of employers and regulations by professional bodies and higher education organisations in many countries. The move towards privatization and managerialism within social welfare services has impacted on the profession.*

*In a time of rising specialisation within almost all professions there is the danger of losing sight of the unity and connectedness that exists in the real world. Social work, as with other professions, is under pressure to be increasingly specialised both in its education curricula and in practice. At the same time there are many supporters of the generic approach in social work education. There is a need to challenge both the advantages and disadvantages in each of these approaches.*

*A fundamental challenge for the future enhancement of social work education and for the increasing and deepening of social work knowledge is the development of a robust social work research base.*

*So keeping in view the current opportunities and challenges efforts should be made to connect Theory and practice by bridges such as reflective practice and other strategies for more effective social work intervention. Student-centered methods have shown their effectiveness in facilitating deep understanding of content, the acquisition of critical thinking, developing a creative problem-solving attitude and an increasing level of confidence in knowledge and skills. So a student centered education need to focus on activity from teachers to learners.*

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**INTRODUCTION**

The development of social work as a profession has been under debate both within the social work fraternity and outside of it. As a helping profession, the primary mission of social work is to help clients meet their needs and enhance their well-being. In order to effectively respond to clients' needs and demands, professional social workers are equipped with a wide range of knowledge.

Social work as a profession continues to face many challenges in the 21st century as it strives to promote well-being and enhance welfare in a socio-political climate driven by economics and individualism. Over the years, the definition of a profession has undergone change and new vocations or semi-professions have come to be accepted as professions.

**MAJOR CHALLENGES IN SOCIAL WORK PROFESSION**

The major challenges in social work profession are as follows.

**➤ Status of Social Work Profession**

The biggest challenge that social work faces for being recognized as a profession is the haziness of its social status. It is still assumed that social work is voluntary in nature and any individual who wishes to pursue social work can do so. Even it is observed that all the peoples those who are engaged or doing charity work are calling themselves social workers. In India, the lack of governmental support compounds this problem. Many social work educators and practitioners have sought to organize National level associations that would be recognised by the government and they also need to work together and need to think out of box not only conducting seminar and workshops.

**➤ The Theory and Practice Relationship**

Social work is a profession and practice based academic discipline. In social work profession the role of theory in practice continues to be an on-going discussion in the profession. Simon (1994) insists that it is crucial for



social work practitioners to learn theoretical knowledge because theory can serve as an anchoring frame and a conceptual screen for case assessment, causal explanation, intervention planning, and outcome evaluation. Although this kind of expert debate provides a vehicle for scholars or educators to thoroughly discuss the role of social work theory in practice, it does not offer an opportunity for the general consumers of the outcome to express their views, especially students who are required to learn and apply theory in practice.

Puolter (2005) thinks learning and applying social work theory in practice is an on-going reflective evaluation of practice guided by current and emerging theoretical knowledge and research to learn when and how to add or replace theory and practice strategies for practice effectiveness.

When theory is applied to practice, one of the biggest challenges facing social work students is integrating theory with practice in an effective way. Vayda and Bogo (1991) state that social work students often experience the disconnection between classroom and practicum, and frequently experience difficulty in applying concepts learnt in the classroom to practice. Munro (2002) points out social work students cannot explicitly and systematically apply any relevant theory when they work with clients unless practice supervisors provide a clear theoretical framework.

In recent years, there has been a trend that theory and practice should be integrated, which implies that social work theory should play certain roles in practice.

➤ **Teaching Social Work practice at the time of Crisis**

In the recent years all the societies are facing dramatic challenges. The financial, economic and other social crisis have led many countries to implement severe policies. In the light of the changing practice environment students are facing challenges how to respond appropriately in the crisis circumstances. Students need to learn and understand the problem from different Prospects, work methodology, research and innovatory practice.

➤ **Reflecting on Social Work Teaching Methods**

In the recent time a student centred education shifting the focus of activity from teachers to learners. The acquisition of critical thinking, developing a creative problem-solving attitude among students and an increasing level of confidence in knowledge and skills are the other challenges among the professional.

➤ **Social Work Research on Practice and Education**

A fundamental challenge for the future enhancement of social work education and for the increasing and deepening of social work knowledge is the development of a robust social work research base. There is a need to assess the impact of research in social work education and practice development. There is also a challenge to promote and utilise research on practice to update its curricula and develop research-based comparative knowledge among the students and practitioners and also need to understand how social work research can inform the link between theory and practice.

➤ **Challenges in Developing & Updating Social Work Curricula**

The another challenge the profession is facing is in term of developing and updating curriculum keeping in view the changing needs of the society. The move towards privatization and managerialism within social welfare services has impacted on the profession. Cuts in the public sector have resulted in reduced welfare services for many people. Social work education is seeing increased academisation of its curricula. At the same time, service users and their organisations' voices are regarded as valuable in developing the curricula of social work. As we look to the future, how should social work education change?

➤ **A Generic or Specialist Social Work Education**

In a time of rising specialisation within almost all professions there is the danger of losing sight of the unity and connectedness that exists in the real world. Social work, as with other professions, is under pressure to be increasingly specialised both in its education curricula and in practice. At the same time there are many supporters of the generic approach in social work education. There is a need to challenge both the advantages and disadvantages in each of these approaches.

**MAJOR OPPORTUNITIES IN THE SOCIAL WORK PROFESSION**

The opportunities are in the following areas.

- There is a need to create awareness among the masses regarding the social work profession and all the association of social work should work together in order to promote the professional status.
- There is a need to understand how the dialogues can be strengthened between the professional world and the academic world and how can social work education contribute to its own academic knowledge production and practice development. There is also a need to understand how can systematic reflection on social work

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action give life to new theories and how new theories born in the academic work can be useful in the practice.

- In times of deep economic, ecological and social crisis it could seem that the promotion of social and economic equalities and the dignity and worth of peoples hopelessly clash against the reality of a lack of resources So there is a need to train the students regarding this particular aspect.
- There is a need to understand what should we teach students to be better prepared as social workers in times of crisis.
- There is a need to create a forum for the sharing of experience and knowledge between different generations of social work educators and researchers, as well as with social work professionals, students and service users.
- There is a need to provide a forum for the discussion of the above-mentioned challenges while devising and formulating new pedagogies aimed at addressing their specific implications.
- There is also a need to know how should we balance the professional, academic and skills-based nature of social work in our curricula.

### **CONCLUSION**

Globalization has changed the world in which we live. Social workers witness the challenges for individuals, communities and societies that are resulting from this rapid transformation of our world. The social work community need to respond by introducing the Global Agenda for Social Work and Social Development that committed the social work community to four main priorities like promoting social and economic equalities, promoting the dignity and worth of peoples, working toward environmental sustainability and Strengthening recognition of the importance of human relationships.

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**FINANCIAL INCLUSION: SERVICES AND STRATEGIES OF RETAIL BANKING**

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**ABSTRACT**

*The benefits of economic growth have not equitably reached different parts of our society. The rural and agricultural sector, in particular, has not gained the desired momentum of growth and development.*

*Access to finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. This has to become an integral part of our efforts to promote inclusive growth. In fact, providing access to finance is a form of empowerment of the vulnerable groups. The various financial services include credit, saving, insurance payments and remittance facilities. The objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its ambit people with low incomes. Through graduated credit, the attempt must be lifting the poor from one level to another so that they come out of poverty.*

*As the economy began to grow at higher rates, the regional and societal disparities called for new strategies to ensure that the banking system met the requirements of inclusive growth. Such strategies needed to be fashioned in a manner that they did not undermine the stability and efficiency of the financial system. Specific focus on financial inclusion commenced in November 2005, when Reserve bank advised banks to make available a basic banking 'no-frills' account with low or nil balance as well as charges, with a view to expanding the outreach of such accounts. In such accounts, banks are required to make available all printed material used by retail customers in the regional language concerned.*

*Financial inclusion rest on three pillars viz., access to financial services, affordability of such services and actual utilization of such services. Financial inclusion can be achieved only if all the three pillars show affirmative results.*

*Key Words: Financial Services, Inclusive Growth, Financial Inclusion, Organized Financial System.*

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**INTRODUCTION**

Financial Inclusion means extending the banking habit and ensuring access to financial services and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. But the path of financial inclusion is daunting. The benefits of economic growth have not equitably reached different parts of our society. The rural and agriculture sector, in particular, has not gained the desired momentum of growth and development.

The Recent developments in banking technology have transformed banking from the traditional brick – and – mortar infrastructure like staffed branches to a system supplemented by other channels like automated teller machines (ATM), credit /debit cards, internet banking, online money transfers, etc. The moot point, however, is that access to such technology is restricted only to certain segments of the society. Indeed, Some trends, such as increasingly sophisticated customer segmentation technology – allowing, for example, more accurate targeting of sections of the market – have led to restricted access to financial services for some groups. There is a growing divide, with an increased range of personal finance options for a segment of high and upper middle income population and significantly large section of the population who lack access to even the most basic banking services. This is termed “financial exclusion”. These people, particularly, those living on low incomes, cannot access mainstream financial products such as bank accounts, credit, remittances and payment services financial advisory services, insurance facilities, etc.

Deliberations on the subject of Financial Inclusion contributed to a consensus that merely having a bank account may not be a good indicator of financial inclusion. Further, indebtedness as quantified in the NSSO 59<sup>th</sup> round (2003) may not also be a reflective indicator. The ideal definition should look at people who want to access financial services but are denied the same. If genuine claimants for credit and financial services are denied the same, then that is case of exclusion. As this aspect would raise the issue of credit worthiness or bank ability, it is also necessary to dwell upon what could be done to make the claimants of institutional credit bankable or creditworthy. This would require re-engineering of existing financial products or delivery systems and making them more in tune with the expectations and absorptive capacity of the intended clientele.

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**LITERATURE REVIEW****FINANCIAL INCLUSION**

Financial inclusion is defined as “a process that ensure the ease of access, availability and usage of the formal financial system for all members of an economy” (Sarma, 2008, p.3). Ease of access is measured by proxies such as number of banks branches or number of ATMs per 1000 population. Availability and usage are measured by the extent of utilization as well as the size of bank credit and bank deposits, relative to the GDP of country. An inclusive financial system should have as many users as possible as this gives an indication of how much the financial system has penetrated among users (Sarma, 2007). The various dimensions of inclusion that are encompassed in this definition, together build an inclusive financial system. As banks are the gateways to the most basic forms of financial services, banking inclusion/exclusion is often used as analogous to financial inclusion/exclusion. It has been observed that even “well developed” financial services have not succeeded to be “all inclusive” and certain segment of the population remain outside the formal financial system (Sarma, 2008).

**UNBANKED AND UNDER BANKED MARKETS**

(Worthington, 2008, p.101) defines the unbanked as “those individuals without a traditional saving or checking account”. They are distinct from the under banked who have some limited relationship with a financial institution. (Sarma, 2008 p.8) defines the under banked as people with bank account, but who make very little use of the services an offer. Surma purports that merely having an bank account is not enough for an inclusive financial system: It is also imperative that the banking services are adequately utilized.

The under banked tend to rely on alternative financial institutions even through they have bank accounts because they are not fully integrated into the banking services. As a result, these individuals may pay more for basic financial services

**OBJECTIVE OF THE STUDY**

The objective of the research described in this study was to investigate the financial services and strategies that are being employed by Indian retail banking to optimize financial inclusion.

**NEED FOR INCLUSION**

The essence of financial inclusion is trying to ensure that a range of appropriate financial services is available to every individual and enabling them to understand and access those services. A part from the regular form of financial intermediation, it may include a basic no frills banking account for making and receiving payments, a saving product suited to the pattern of cash flows of a poor house hold, money transfer facilities, small loans and over drafts for productive personnel and other purposes etc.

How ever, inclusive finance does not require that everyone who is eligible uses each of these services, but they should be able to choose to use them, if they so desired. To this end, strategies for building inclusive financial sectors have to be creative flexible, appropriate to the national situation and if necessary, nationally owned. For promoting financial inclusion we have to address the issue of exclusion of people who desire the use of financial services, but are denied access to the same. In countries with a large ruler population like India, financial exclusion has a geographic dimension as well. In accessibility distances and lack of proper infrastructure hinder financial inclusion. Vast majorities of population living in rural areas of the country have serious issues in accessing formal financial services. Another facet of exclusion which needs to be address is “social exclusion” – which is an extreme consequence of what happens when people do not get a fair deal through their lives, often because of disadvantages they face at birth, and this can be transmitted from one generation the next. Social exclusion is about more than income poverty. It is a very short hand term for what can happen when people or areas have a combination of problem such as unemployment discrimination, poor skills, low incomes, poor housing and also perceived difficulties in doing business. These difficulties are linked and mutually reinforcing.

**ABC OF FINANCIAL INCLUSION**

Financial inclusion rests on three pillars viz, access to financial services, affordability of such services and actual utilization of such services. Financial inclusion cab be archived only if all the three pillars show alternative results. Thus the ABC of financial inclusion is advice, Banking and credit. It must also be noted that while for developing countries like India, generally the process of financial inclusion starts with opening of savings bank accounts. The process, at a later stage, must also incorporate credit facilities and other financial services such as insurance. Thus, promotion of financial inclusion would require holistic and coherent approach on the part of the banking industry as also the regulator (RBI) and the Government.

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**FINANCIAL INCLUSION –CRUCIAL ROLE OF MICRO FINANCE**

Report of the committee of financial inclusion, 2008 is quoted that “Access to finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. This has to become an integral part of our efforts to promote inclusive growth. In fact, providing access to finance is a form of empowerment of the vulnerable groups. The various financial services include credit, saving, insurance payments and remittance facilities. The objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its ambit people with low incomes. Through graduated credit, the attempt must be to lift the poor from one level to another so that they come out of poverty (Report of the committee on financial inclusion, 2008)” - The committee further opined that to achieve inclusion.

- Existing micro finance innovations should be put to use extensively and further strengthened.
- SHG federations may take up quite a lead in this regard.
- Joint liability groups can be promoted to upscale the lending and meet the specific requirement of a particular section of vulnerable populations.
- Extend the outreach by leveraging technology to open up lacinating technology to open up channels beyond branch network.
- The business facilitator/ Business correspondent (BF/BC) models riding on appropriate technology can deliver this outreach and should form the core of the strategy.

**STRATEGIES FOR SERVING THE BOTTOM OF THE PYRAMID**

As the economy began to grow at higher rates, the regional and societal disparities called for new strategies to ensure that the banking system met the requirements of inclusive growth. Such strategies needed to be fashioned in a manner that they did not undermine the stability and efficiency of the financial system. Specific focus on financial inclusion commenced in November 2005, when reserve bank advised banks to make available a basic banking ‘no-frills’ account with low or ‘nil’ minimum balances as well as charges, with a view to expanding the outreach of such accounts. In such accounts, banks are required to make available all printed material used by retail customers in the regional language concerned.

In order to ensure that persons belonging to low income groups both in the urban and rural areas do not encounter difficulties in opening bank accounts, the know your customer(KYC) procedure for opening accounts has been simplified. Besides the Kisan Credit Cards (KCC), banks have been asked to consider introduction of a general purpose credit card (GCC) facility up to Rs 25000 at their rural and semi urban branches.

This facility is in the nature of revolving credit, which entitles the holder to withdraw up to the limit sanctioned. Based on assessment of household cash flows, limits are sanctioned without insistence on security or purpose. Interest rate on the facility is completely deregulated. Fifty percent of GCC loans can treat as priority sector. Financial inclusion is intended to connect people to banks with consequential benefits. A decentralized strategy has been adopted for ensuring financial inclusion.

**NO FRILLS ACCOUNTS AND GENERAL PURPOSE CREDIT CARDS**

In November 2005, banks were advised to make available a basic banking ‘no-frills’ account with low or nil minimum balances as well as charges to expand the outreach of such accounts to vast sections of the population.

Banks are required to make available all printed material used by retail customers in the concerned regional language.

In order to ensure that persons belonging to low income group, both in urban and rural areas do not encounter difficulties in opening banks accounts, the know your customer(KYC) procedure for opening accounts has been simplified for those accounts with balances not exceeding Rs. 50,000 and credits thereto not exceeding Rs 1,00,000 in a year. The simplified procedure allows introduction by a customer on whom full KYC drill has been followed.

**MEASURES BY RBI AND GOI TOWARDS FINANCIAL INCLUSION**

Historically, the Reserve Bank of India (RBI) and the Government of India (GOI) have been making efforts to increase banking penetration in the country in November 2005, banks were advised to make available a basic banking ‘no-frills’ account with low or nil minimum stipulated balances as well as charges to expand the outreach of such accounts to vast sections of the population. In order to ensure that persons belonging to low income group, both in urban and rural areas do not encounter difficulties in opening bank accounts owing to procedural hassles, the know your customer (KYC) procedures for opening accounts has been simplified. The

reserve bank has directed banks to make available all printed material used by retail customers in English, Hindi and the concerned regional language.

More recently in January 2006, banks were permitted to utilize the services of non-governmental organizations (NGOs/SGH), micro finance institutions and other civil society organizations as intermediaries in providing financial and banking services through the use of business facilitator and business correspondent models. To extend hassle-free credit to bank customers in rural areas, the guidelines on General Credit card (GCC) schemes were simplified to enable customers' access credit on simplified terms and conditions, without insistence on security, purpose or end- use of credit. With a view of providing hassle free credit to customers, banks were allowed to issue general credit cards akin to Kisan Credit Cards (KYC).

The reserve bank has also been periodically issuing guidelines on public grievance redressal mechanism in banks, including constitution of customer service centers for ensuring improvements in quality of service rendered. In the reserve bank the customer service department has recently been constituted to inter alia, serve as the interface between customers and banks. Moreover, the Government of India has also expressed its explicit concern on the issue of overall inclusion in the development process through its various initiatives such as the rural employment guarantee scheme, the Bharat Nirman Programme, the Sarva Shiksha Abhiyan, and the like. A committee on the financial inclusion, with Dr. C. Rangarajan as chairman, has also been constituted by the government of India in June 2006, to recommend a strategy to archive higher financial inclusion in the country.

### **SUGGESTIONS**

- A financially sound cooperative structure can do wonders for financial inclusion given its extensive outreach.
- Making banking more inclusive through expanding the coverage of banking services by reaching the vast un-banked and under-banked population of the country.
- Banks also need to have flexibility in terms of working hours, documentations, mode of interactions and transactions and need to explore ways to generate and utilize local knowledge for effective loan monitoring and risk mitigation.
- Product and services needs to be developed that are adapted to the needs of the majority at affordable price time to time.
- A monitoring mechanism to access the quality and quantum of financial inclusion including indicators for assessing regular progress.

### **CONCLUSION**

To conclude, I wish to stress that with increasing liberalization and higher economic growth, the role of banking sector is poised to increase in the financing pattern of economic activities within the country. To meet the following credit demand, the banks need to mobilize resource from a wider deposits base and extend credit to activities hitherto not financed by banks. The trend of increasing commercialization of agriculture and rural activities should generate greener pastures, and banks should examine the benefits of increasing penetration therein. Financial inclusion will strengthen financial depending and provide resources to the banks to expand credit delivery. Thus, financial inclusion will lead to financial development in our country which will help to accelerate economic growth.

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## **HUMAN RESOURCES MANAGEMENT PRACTICES IN BANKING SERVICES IN INDIA**

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### **ABSTRACT**

*Effective management of human resources play a vital role in sound management of banks as human resource management is a central sub system of modern management system. Management of human resources, adaptation to any kind of change and effective functioning of banks are possible only when human resources are developed. Thus, HRD facilitated for all round development of banks in addition to allowing them to be dynamic and responsive to the environmental changes. The study on Human Resource Management practices in Banks, under present economic scenario in the country is essential to understand bank's present HRM philosophy, practice and outcome with a view to offer suggestions for formulation of right philosophy and practice of HRM in Banks. The present study has been undertaken in view of the absence of systematic studied on the subject. Nationalization has changed the complexion and dimensions of banking services in India. It helped to hasten the pace of geographical and functional diversification. The new dimensions have placed the varying responsibilities on the shoulders of banks such as expansion of branch offices to unbanked and remote rural areas on a massive scale so as to cover small scale sector, cottage and rural industries, self-employed persons, artisans, weaker sections of the society, small traders and other persons of small means. The study covers all the important areas of human resource development in banks. These areas include conceptual clarification about human resource management in banks, essentials of HRM practices, sub-system of human resource management like performance appraisal, training, management development, career planning and development, organization development, participative management, quality circles etc. These primary areas of human resources practices will be studied thoroughly to the maximum extent through the means of discussion, interviews, reports, accounts, observations etc.*

*Key Words: Human Resources, Banking Services, Practices, Functions.*

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### **INTRODUCTION**

HRM Practices in banking industry in India have evolved over a long period of time through a reactive process. To understand the evolution of HRM Practices, it becomes necessary to examine the historical development of the establishment of these practices. To have an understanding of bank employees and their service conditions, one has to look back to early forties and fifties of the previous centuries and accept that the condition of bank employees vis-a-vis other middle and working class employees was worse. The employees in the sector were unorganized, had helplessly low wages, worked in inhuman and intolerable working conditions for unlimited working hours, had no leave facility, no security of service and the policy of hire and fire was ruling the roast.

Dramatic advances of Information and Communication Technology (ICT), changing mix and personal values of the workforce, emergence of the knowledge economy and increasing global competition have created enormous challenges on organizations. To cope with the challenges efficiently, human resource has been considered as one of the most important factors in today's hypercompetitive market place. In the context of a developing economy like India, where the need for formation of capital is pressing, where developments in the field of industrial and bank management are dynamic, and where financial crises accompanying pangs of economic growth are frequent, the challenges posed by HRM are great importance; and, as a sequel, exploring the possibilities of the application of HRM becomes a very relevant field of enquiry and research. Beardwell et. al. (1984) defined HRM as a strategic approach to the management of human resources that involves all management decisions and actions that affect the relationship between the organization and employees. Beardwell et al., (2004) regard HRM as the philosophy, policies, procedures, and practices related to the management of people within an organization.

### **SIGNIFICANCE OF THE STUDY**

The HRM is a growing concept. It has tremendous relevance to service sector like banking. Human input is the single largest input that goes in the banking industry. The level of efficiency/production of this input gets reflected in the quality of service offered by banks to its customers, as also in its ultimate growth, productivity and profitability. Hence, the banks today lay great stress on HRM functions.



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**OBJECTIVES OF THE STUDY**

The objectives of the study are to identify HRM practices of banking Services in India. To that end, the specific objectives are:

- To provide an overview and analysis of HRM practices;
- To focus the dimensions of HRM practices;
- To provide some suggestions for improving HRM practices to provide better banking services.

**LITERATURE REVIEW**

According to Macky & Boxall (2007), the scientific literature assumes a causal link flowing from HRM practices to organizational performance via the responses of employees. Organizations that do not pay equitably compared to others may lose their employee's because of the non-competitive compensation package.

According to Lawler (2005), society has entered a new era in the relationship between organizations and their employees. In this new era, people are the primary source for a company's competitive advantage and organizational prosperity and survival depends on how employees are treated.

According to Klaus et al. (2003), through better job assignment or work design, employees may display greater commitment, leading to better job performance

Buck and Watson's (2002) indicated nine important HRM practices such as decentralization, Compensation, Participation, training, development, employment security, social interactions, management style, communications, and performance appraisal.

On the basis of the above literature review, the study consider the following dimensions of HRM practices have impacts on employees' satisfaction towards organization such as recruitment and selection systems, compensation package, job security, career growth, training and development, management style, job design and responsibilities, reward and motivation, and working environment.

**HRM IN INDIAN BANKS**

The study of HRM policies, practices and trends in banks has been made mainly on the basis of secondary data. The policies and practices with respect to recruitment, selection and promotion, compensation, training and development have been studied for public and private sector banks. There are 26 commercial banks operating in the public sector in India. SBI and its 5 Associate banks, 19 nationalized banks and IDBI Bank appear under the public sector. Out of 21 private sector commercial banks, 14 appear under old private sector banks, while the remaining 7 are grouped under new private sector banks. The data regarding all these banks and banking sectors has been gathered from different sources like the published documents, such as annual reports of the banks, manuals, office records of different Training Institutes, divisional offices and head offices of the sample banks and from other available published sources like various annual and monthly publications of Indian Banks Association, Bombay (IBA) and RBI Bulletins and supplements to RBI Bulletin, various journals related to banking industry, websites, etc. Following are some of the areas of concern regarding HRM policies and practices of the Indian banks which have been discussed here under:

1. Selection and Recruitment
2. Promotion
3. Compensation
4. Training and Development.

An analysis of HRM policies and practices of the Indian public and private sector banks has also been done through "content analysis." Total 29 different HRM areas have been identified with respect to recruitment, selection, promotion, compensation, training and development policies and practices; and these have been compared through "content analysis".

**MEETING HR CHALLENGES**

The banking sector has been growing at a very fast pace in India not only in the terms of its size but also in terms of the services being provided. With banks reaching the remote areas in the country one can anticipate positive things like financial aid to farmers and increased financial awareness. However, with the increase in size and activities of banks, the number of banks in private sectors has also increased thereby posing challenges like cost-efficiency, technological advancement, and credibility related issues. The task before the HR is to develop strategies that help banks in gaining competitive advantage and encourage innovation in its products and services.

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**MANAGING HUMAN RESOURCE**

Considering the above HR challenges which our Indian banking industry is facing, we can manage the human resources by proper Planning like

- Hiring the right person for the right job
- Retaining and Developing
- Managing people/ conducting exit interviews

**HIRING THE RIGHT PERSON FOR THE RIGHT JOB**

In assessing whether the "right person" has been selected for the "right job", the most prominent theoretical concept that emerges is the concept of "fit". Different writers emphasize different types of fit. Sekiguchi (2004: 179) in a review of literature on person-environment fit discusses two types of fit that emerge as the most prominent types of fit: person job fit and person-organization fit. In pursuing person-job fit, companies seek to match the job holder's knowledge, skills and abilities to the requirements of the job. Companies can ascertain person-organization fit by focusing on how well the individual fits with the culture or values of the company and the individual's capacity to work well with other company employees.

Banks will have to plan for the following:

- A steady, carefully calibrated recruitment programme,
- As rapid technological changes transform business – continuous skill up-gradation.
- A new generation of the workforce will be working alongside an older generation as a team.

Banking, in my opinion is a team work and this new situation will require cultural adjustments and therefore, change management.

**RETAINING AND DEVELOPING EMPLOYEES**

We may be able to get the most suited people for our work but then the challenge is to retain these people and to develop them. There are several dimensions to this issue such as training/ re-skilling of employees, performance measurement, promotion policy, transfer policy, talent management, communication, etc. I will like to discuss some of them:

**TRAINING AND DEVELOPMENT**

With drastic growth of banks it calls for efficient and well trained staff members to handle/deal with the consumer needs. Banks are shaping up as financial hub for their clients to grow in size and well recognized in the world market. To pull consumers banks are offering traditional with advance services like SMS banking, ATM, internet banking, priority banking, demat. So we can say that it caters to the need of the bottom to the highest class of society providing something to everyone. Universal banks have become modern day's supermarket extending almost every facility of banking under one roof.

Banks like Bank of Baroda are conducting Grooming and etiquettes programmes for front-line employees and also for employees selected for overseas posting in order to improve their service levels and qualitative interaction with customers and various stakeholders better. SEED (Self efficiency and effectiveness development) programme being run for frontline staff of the Bank in order to improve their service skills and servicing efficiency.

In Punjab National Bank, in the light of the large scale human resources gaps that Bank is likely to face in the next few years need for Succession Policy has been felt. The Policy envisages mapping of the 'existing pool' against the 'future requirement' from the projected business figure to ensure that adequate number of officials are available in the pool and also to foresee the surplus / deficit in the pool for ascertaining the requirement of succession in a particular vertical.

**PERFORMANCE MANAGEMENT**

Banking service is one sector where a great degree of attention is being paid to performance appraisal system. Several of the nationalized banks have changed their performance appraisal system or are in the process of changing them. In most of the banks that follows the traditional system, their officers are being assessed on the following characteristics:

- General Intelligence
- Job Knowledge
- Initiative and resourcefulness
- Supervision

- Business Capacity
- Ability to assess sound
- Business propositions
- Dependability
- Relationship with junior & senior colleagues
- Relationship with public
- Conduct, manners, Managerial ability
- Failures that attracted issue of warning by superiors

Several of the banks also have self-appraisal as a part of performance appraisal, although mostly such self-appraisal is more of a communication of achievements. A fair, transparent and objective mechanism for performance management is a must for all banks because an effective Performance Management System is the key to talent management and succession planning. RBI is shortly going to introduce a new Performance Management System that will work on goal setting, potential appraisal of performers and developing a talent pipeline. With all these changes we are also going to face major challenges on the Talent Management front. In coming times, the work force will get complex and there will be a need to juggle a wide variety of people with varied needs and preferences, resulting in an array of relationships between the organization and those who work for it. Peter Drucker had, more than a decade ago, expressed the need for what he called “non-traditional” work relations: flexible schedules, contract arrangements, virtual teams, etc.

### **MANAGING SEPARATION**

In recent years, with the high levels of attrition in the service sector, it has become imperative for firms to have a structured separation plan for orderly exits of employees. Of course, the concept of “pink slips” or involuntary exits are another matter altogether and involve some bitterness that results because of the employee losing his or her job. In conclusion, it is our view that employee separations must be handled in a professional and mature manner and though attrition is a fact that concerns everyone in the industry, once an employee decides to leave, the separation must be as smooth as possible.

### **ROLE OF HR MANAGER IN EXIT INTERVIEW**

- Discover the employees reason for leaving
- Give positive attention to the departing employees in order to alleviate possible frustrations and/or negative attitude toward the organization
- Allow departing employees to have a voice about what their work experience was like
- Receive valuable feedback from departing employees about compensation, working conditions, management, and the culture of the organization
- Explore areas of the departing employee’s most serious concerns, and record details of what they enjoyed most
- Departing employees have an opportunity to transfer knowledge and experience to a successor or replacement; may also brief a team on current projects, issues and contacts
- Chance for departing employees to give constructive feedback, and to leave on a positive note, with good relations and mutual respect

### **SOME OTHER HR PRACTICES AND BENEFITS GIVEN TO EMPLOYEES**

#### **GRATUITY**

HDFC Bank provides for gratuity to all employees. The benefit is in the form of lump sum payments to vested employees on resignation, retirement, death while in employment or on termination of employment of an amount equivalent to 15 days basic salary payable for each completed year of service. Vesting occurs upon completion of five years of service.

#### **SUPERANNUATION**

Employees of the Bank, above a prescribed grade, are entitled to receive retirement benefits under the Bank’s Superannuation Fund. The Bank contributes a sum equivalent to 13% of the employee’s eligible annual basic salary (15% for the Managing Director, Executive Directors and for certain eligible erstwhile Centurion Bank of Punjab (‘eCBoP’) staff) to insurance companies, which administer the fund. The Bank has no liability for

future superannuation fund benefits other than its contribution, and recognizes such contributions as an expense in the year incurred, as such contribution is in the nature of defined contribution.

### **SHORT TERM EMPLOYEE BENEFITS**

In State Bank of India the undiscounted amount of short-term employee benefits, such as medical benefits, casual leave etc. which are expected to be paid in exchange for the services rendered by employees are recognized during the period when the employee renders the service.

The Bank operates a Provident Fund scheme. All eligible employees are entitled to receive benefits under the Bank's Provident Fund scheme. The Bank contributes monthly at determined rate (currently 10% of employee's basic pay plus eligible allowance). These contributions are remitted to a trust established for this purpose and are charged to Profit and Loss Account. The Bank provides for pension to all eligible employees. The benefit is in the form of monthly payments as per rules and regular payments to vested employees on retirement, on death while in employment, or on termination of employment. Vesting occurs at different stages as per rules.

### **SUGGESTIONS**

The banking sector has grown from a few institutions primarily involved in deposit acceptance and trade finance into a complex multi-player markets where large number of commercial banks, financial institutions and specialized banks are operating with various product activities. Like many other organized sectors, banking requires multi-layer manpower for its various requirements of professionals and support staff. The range may require reasonably educated security guards on the one hand and a highly educated and trained professional as head of corporate finance. With liberalization of activities within the banking sector, for example, more emphasis on consumer and house finance and personal loans, etc Banking has turned itself into a more market based business where banks have expanded their reach more to customer's door step in a big way making banking more practical. This has further highlighted the need for proper development of man power to run banks efficiently.

In spite of all these facilitations there still exist several lacunas in the HRM practices in banking industry. Some of the specific suggestions based on survey of literature as well as the group discussions and survey are given here under:

- There should be a balanced compromise between organizational need and individual need. Total insensitiveness to individual preference gives rise to frustration at some point of time, which as a consequence has a real damaging effect on the organizational growth itself.
- While there must be rewards for performance, non-performance must be punished/ reprimanded. Promotions must be only on merit.
- There must be uniform, impartial and balanced "employee performance review system". This system in fact needs a total review.
- Enthusiastic and pleasant Behaviour of staff to the customer is necessary.
- There must be a clearly defined system of succession planning and career growth planning in banks.
- Attitudinal changes are required at the top level.
- Human resource Balance Sheet should accompany financial statements.
- In order to become HRD conscious, the Public Sector Banks should allow independent functioning of HRD section, where the top person should be himself a good successful banker, a real HRD person free from any biases.
- More openness, transparency in personal matters, high value of human dignity, people oriented management system, creating belongingness and trust, two-way communication.
- Banks should have a system, whereby the training needs of an employee are identified and are duly fulfilled at every stage of career growth.
- Have special R & D wings in HRD Department for ongoing in house & external research development, review and implementation of HRD policies.
- There should be award schemes administered by prestigious organizations and Govt. agencies for best HRD policies & Practices amongst Public Sector Banks. Etc

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**AN ANALYSIS ON THE CONSEQUENTIAL IMPACTS OF GENDER MAINSTREAMING IN EDUCATIONAL INSTITUTIONS FOR GENDER EQUITY MANAGEMENT USING FUZZY CLUSTERING**

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**ABSTRACT**

*Gender is a socially built phenomenon which refers to the chronological and sociological association between men and women. Gender Bias and gender difference exists in all organizations and institutions at all levels and it act as hurdles for global growth. Imparting gender equality through education will pave way for creating gender equity society and it will be more realistic only when the implementation of gender mainstreaming takes place in educational institutions which highly focus on diminishing gender disparities. The main focus of this article is to throw lime light on the characteristics and the essentials of gender mainstreaming. This paper also aims in finding the consequential impacts of accomplishing gender mainstreaming in Educational institutions by using the concept of Fuzzy clustering, a scientific tool for systematic investigation and inference.*

*Keywords: Gender equity, gender mainstreaming, fuzzy, clustering, Educational Institutions.*

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**1. INTRODUCTION**

Our Indian nation has undergone several transformations with regard to culture, civilization in the context of political, social, economic and religious dimensions for global growth, but the empowerment of the country depends on the status of gender equality, which is yet to be attained. The conventional societal set up has designated males to be dominant sector and categorized females as vulnerable. This traditional thought process paved the origin of gender discrimination and it got strengthened in all the earlier eras of Indian history. But in recent years the insight of women empowerment is taking its lead in various aspects which has initiated the ways of improving women's societal status. In reality the women empowering process is not sustained at all stages which hurdles the attainment of gender equality. To enhance the position and power of women, education has to be imparted to make them dynamic, but the questions of equal opportunities are still to be answered. The existence of gender equity and gender sensitivity is not highly prevalent in educational institutions which have the prime responsibility of advocating to the society. To facilitate the thrive of society with gender equality, educational institutions have to take up gender mainstreaming, which means the persistent use of a gender perspective at all stages of the development and implementation of policies, plans, programmes and projects.

The concept of Gender Mainstreaming emerged in 1970's which mainly focuses on integration of women's concern rather than the addition of a women component; assimilation of women to financial systems for better amplification. Many sociologists and anthropologists are in favour of such policy perspectives as it opens the doors of WID approach, women in development. The literature also caters brief description about major gender issues in Higher Education. Women are disabled to continue their secondary and tertiary levels of education due to many factors. The exposure of new technology and training is first advocated to men rather than women with the pre built mind set of underestimation of women's capacity and lack of education. In general women are considered to be physically weaker and socially diffident sector which deprive them the opportunities. Taiwo, 2014 has presented his works on the practices of gender mainstreaming in African nations in which he underlined the contribution of Wanda 2005, Assise-lumumba, 2008, Singh, 2008 with regard to the comparative statistical data of women status with that of men at administrative level in Asian and African nations. He also discussed the core reasons for such social stratification. He also strongly emphasized the consideration of gender as one of the ideologies of development will enable gender mainstreaming to gain attention.

This article foresees the effects of putting into practice of gender mainstreaming in educational institutions in Indian context so as to hatchet gender prejudice at elementary stage by inculcating gender equity education and providing a suitable platform for gender equity roles. As there are several substantial outcomes of gender mainstreaming, the most noteworthy of it has to be determined for creating strong grounds for it to pave way for institutional growth. There are several mathematical methods to resolve the core impact of gender mainstreaming, but in this paper to handle the realistic situations the concept of fuzzy clustering is used which resembles the inference process of conventional statistical methods of decision making employed in social research. These fuzzy clustering methods are highly feasible and they assist in finding the extent of compatibility of the factors considered for study.

The paper is organized as follows: section 2 comprises of the methodology of fuzzy clustering, section 3 elucidates the consequential impacts of gender streaming in educational institutions, section 4 consists of the adaptation of the problem considered, section 5 contains the results and discussion and section 6 concludes the paper.

## **2. FUZZY CLUSTERING**

Clustering is a technique of grouping the similar factors, but practically factors will never fall only to one group always. Therefore conventional clustering is getting upgraded to fuzzy clustering which provides weightage for the factors to fall in many clusters. Suppose if we form three clusters namely low, moderate and high and consider the degree of influence of the factors for study. Some factors may fall in two clusters depending on the pragmatic analysis, which is the essence of fuzzy clustering.

### **2.1 METHODOLOGY**

To carry out the analysis the factors considered for study are fixed on a 10-point rating scale. The cluster 1 = Low is defined with the range 2.0 (beginning value 1)-5.5(ending value 1), cluster 2 = Moderate with range 3.0 (bv 2)-8.0 (ev 2), cluster 3 = High with range 7.0 (bv 3)-10 (ev 3). The mean value is found from the scale. The weightage for each factors are assigned as follows

If the calculated mean from the responses for a particular factor is  $> bv_2$  then the factor lies in both cluster 1 and cluster 2 with the weightage  $ev_1 - \text{mean} : \text{mean} - bv_2$ . If the mean value of the factor is  $> bv_3$ , then the weightage for the factor to lie in cluster 2 and cluster 3 is  $ev_2 - \text{mean} : \text{mean} - bv_3$ . If the factors fall in only one cluster then the weightage is assigned to be 1. If the factors lie in many clusters then their sum of the weightage must be 1

## **3. CONSEQUENTIAL IMPACTS OF GENDER MAINSTREAMING IN EDUCATIONAL INSTITUTIONS**

Gender mainstreaming has several positive components which together contribute for the stabilizing gender equity in educational institutions. The consequential impacts are listed as follows which were collected from a group of persons comprising of educationalists, sociologists and administrators at all echelons.

1. Equal employment opportunities will be given to all genders and a standard service ratio will be maintained.
2. The female gender will be able to express and share their views and opinions on any issue.
3. The people of both the genders will get equal participation role in all the academic events.
4. Women gender will be given administrative responsibilities and they receive a space in decision making.
5. The institution will undergo overall growth in all dimensions.
6. The gender discrimination in the institution will get weakened.
7. Mutual and moral support towards the faculty members will take place.
8. Women gender will be acknowledged and recognized for their works.
9. Gender bias will begin to get declined.
10. The degree of work amicability will get enhanced.
11. The space for women empowerment and promotion of their status will get created in the institution.
12. Capacity building will get accelerated.
13. Gender issues will be addressed in a deeper sense.
14. Institution will get the capability to take up the problems of gender equity in the existing surroundings
15. Students will acquire a wide sense of understanding about gender equity and equality
16. The enrichment of the student's knowledge on gender sensitivity will be a reality.
17. The chances for strengthening the competency of women gender will be made available.
18. Students will be made prepared to create gender unbiased society.
19. The resources of the institution will get manipulated if the decision authorities include women gender.
20. Women liberation gets enlightened.

The above factors are the effects of putting gender mainstreaming into practice. The prime significant factor is determined in the following section using the computational tool.

#### 4. ADAPTATION OF THE METHOD TO STUDY

The factors listed in section 3 are fixed in the 10 – point rating scale. The diagrammatic representation of Mean rating of Consequential impact level is given below.

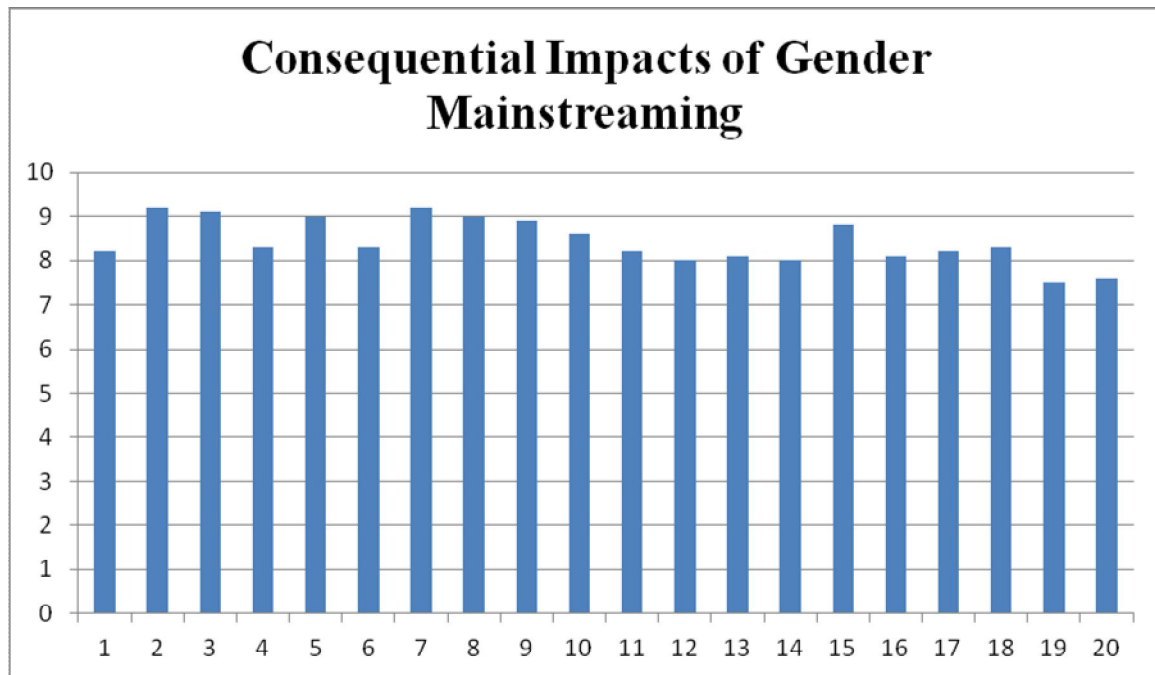


Fig.1. Mean Impact Level of the Factors favouring Gender Mainstreaming

The classification of the clusters based on the impact level is tabulated as follows:

**Table - 1: Classification of Clusters**

	Cluster 1	Cluster 2	Cluster 3
Range	2.0-5.5	3.0-8.0	7.0-10
Mid-Value	3.75	5.5	8.5
Classification	Low	Moderate	High

By applying the method of fuzzy clustering to the factors considered, the weightage of the factors are tabulated.

**Table – 2: Weightage of the Factor's Impactness**

Factors	Mean	Low Impact	Moderate Impact	High Impact
1.	8.2	0	0	1
2.	9.2	0	0	1
3.	9.1	0	0	1
4.	8.3	0	0	1
5.	9.0	0	0	1
6.	8.3	0	0	1
7.	9.2	0	0	1
8.	9.0	0	0	1
9.	8.9	0	0	1
10.	8.6	0	0	1
11.	8.2	0	0	1
12.	8.0	0	0	1
13.	8.1	0	0	1
14.	8.0	0	0	1
15.	8.8	0	0	1
16.	8.1	0	0	1
17.	8.2	0	0	1
18.	8.3	0	0	1
19.	7.5	0	0.5	0.5
20.	7.6	0	0.4	0.6



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**5. RESULTS AND DISCUSSION**

The Table 2 clearly explicates the mean values of the factors and also it reveals the impactness degree of each factor considered favouring gender equity. The factors 2,3,5 and 8 have high mean values and all the factors taken for consideration fall in the cluster 3, which strongly emphasize that the implementation of gender mainstreaming in educational institutions will certainly add up to its growth. Secondly the most significant favouring factor is that women will get chances to share their views and equal participation roles will together promote institution to the next level of development. Inculcating value based system of education comprises all these concepts into consideration.

**CONCLUSION**

This article has addressed the recent trends of stabilizing gender equity in terms of implementation of gender mainstreaming in institutions. The method of fuzzy clustering is used to find the weightage of factors so as to allocate the factors in the clusters of impact levels. The computational results in section 4 state that gender mainstreaming has positive and progressive reach and it will certainly render high support for the growth of the institution and the society. This paper also clearly states the attributes and role of gender mainstreaming.

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All references must be arranged first alphabetically and then it may be further sorted chronologically also.

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