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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

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CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

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WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

AN ANALYSIS OF CONSUMER BUYING BEHAVIOUR TOWARDS PURCHASE OF MID-SEGMENT PASSENGER CARS WITH SPECIAL REFERENCE TO BHOPAL AND JABALPUR CITY

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ABSTRACT

Due to the emergence of liberalization and globalization, there is a stiff competition among the variety of car industries. They are focusing attention in capturing the Indian markets. Cars, yesterday considered as luxury one, are now occupy a part of day to- day life and have become a necessity. Bhopal and Jabalpur which is selected for the study, is one of the main growing markets for car manufactures in India. People who were not ready to spend their money on luxuries have now changed their attitude. At present, on the purchase of cars, people have no reservation in spending money for enjoying the benefits already stated. To become a successful marketer, it is absolutely essential to understand the minds and options of the prospective buyers of cars. In addition to the above, the due weightage which is given by the Government for the growth of passenger car industry and the involvement of the consumers in the selection of a particular brand of car have also made the researcher to undertake a study on the passenger car industry with special reference to the behaviour, preferences and satisfaction of owners of mid-segment passenger cars in Bhopal and Jabalpur city. The study was based on both primary and the secondary data. The primary data was collected by using a structured questionnaire by interviewing personally to the customers in main regions of Bhopal and Jabalpur city and collected data. The statistical tools like percentage and ANOVA test has been used to analysis the primary data. The study throws light on various features that the manufacturers should concentrate on to attract the prospective buyers. This study concludes that consumer behaviour plays a vital role in marketing cars and there is more scope for extensive research in this area.

KEYWORDS

consumer preference, attitude, intention, Trust, buying behaviour.

JEL CODE

M3, M31.

1. INTRODUCTION

Purchasing a car itself is a form of self-expression. People define themselves through their purchasing. What they buy, where they buy and how they buy serves the purposes of letting people express their desires, their needs and personalities. Purchasing Mid Segment Passenger cars give people a sense of accomplishment. To satisfy psychological needs, Modern consumers buy things to reward themselves, or to make them feel good. Modern shoppers buy things because they are expensive. They buy things to make a statement, to show off their personality or to boost their self-esteem.

This paper presents analysis of research in the area of Consumer Behavior of Passenger Car Customer. Proper understanding of consumer buying behavior will help the marketer to succeed in the market.

1.1 CONSUMER BEHAVIOR

The study of consumer behavior deals with the decision process and physical activity, individuals engage in when evaluating, acquiring, using, or disposing of goods and services ***(Loudon & Bitta, 2002)***. Consumption is the key to understand why consumer buys products. The study of consumer decision processes has been a focal interest in consumer behavior for over 30 years. Consumer behaviour is concerned with the understanding of individual's consumption and purchasing activities. Depending on buying choices consumer behavior of every individual is different from other which is influenced by buying habits and choices that are turn tampered by social and psychological drivers that affect purchase decision process. Consumer behavior should be primary focus of every aspect of the firm's marketing program.

1.2 INDIAN PASSENGER CAR MARKET

In the world, India being the second most populated country and as compared to developed countries the growth rate of Indian economy is also high, which attracts the presence of huge demand in the Automobile Car Industry. India is becoming emerging market for worldwide auto giants. For the growth of the Indian automobile market there are various reasons such as:

- As economy is growing people have more disposable income.
- Need of mobility increasing due to urbanization and leisure travel.
- Availability of Car Finance options from Financial Institutes at reasonable rate of interest.
- Improvement in highway infrastructure.
- Availability of service centers and spare parts in near vicinity.

The Passenger Vehicle Industry is a key sector of the Indian economy. In Asia, India is the 4th largest passenger car market. Current concerns over slowdown in economy is suppressing jobs creation in the country and thereby straining purchasing power. Moreover, factors like increasing fuel prices and high inflation coupled with firm interest rates have considerably raised ownership cost of the vehicles in past couple of years.

1.3 CLASSIFICATION OF INDIAN PASSENGER CARS

As India is a developing economy with relatively low GDP per capita, the Indian automobile industry is dominated by 2-Wheelers which comprise of 77% of the overall market. Passenger vehicles are the 2nd largest segment of the industry with a share of 15% and commercial and three wheelers comprise of 8% of the market share. According to Society of Indian Automotive Manufacturers ***(SIAM)*** passenger cars in India will now be classified (according to lengths) under eight categories:

1) Micro (3,200mm)
2) Mini (3,200mm-3,600mm)
3) Compact (3,601-4,000mm)
4) Super Compact (4,001-4,250mm)
5) Mid-size (4,251-4,500mm)
6) Executive (4,501-4,700 mm)
7) Premium (4,701-5,000mm)
8) Luxury (5,001mm and above)

1.4 MID-SEGMENT PASSENGER CARS

A mid-segment passenger car (occasionally referred to as an intermediate) is the North American/Australian standard for an automobile with a size equal to or greater than that of a compact. In Europe mid-size cars are referred to as D-segment or large family cars. In India Mid-size car length is between 4,251-4,500 mm. As per data supplied by (CLSA), Asia-Pacific's largest and most highly rated independent equity broker and financial-services group, the population of millionaires in India will double to hit a staggering 403,000 by 2015. It, thus, conclude that Mid Segment Passenger cars in the country, are in for a pretty steep climb on sales charts over the coming days.

2. REVIEW OF LITERATURE

According to ***(Subadra, Murugeshan, Ganapathi, 2010)***, the market is now predominantly consumer driver. The focus is shifting for product based marketing to need based marketing. Consumer is given many options to decide. Passenger car segment is no exception to this general trend. An effective market communication is imperative for reaching the target audience. So it is important that to study the consumer perceptions and behaviour of the car owners which will give us feedback on how marketing strategies can be worked.

According to ***(Monga, Chaudhary &Tripathi, 2012)***, Brand personality of a car is enforced by the sellers in the mindsets of the customers and customers react to it by forming their perception about the car and this reflects in the overall brand image of the car. So brand image and brand personality complement each other and the brand perception aids the building of brand images.

(Rezvani, Dehkordi, Rahman, Fouladivanda, Habibi, &Eghtebasi, 2012), this paper reviews the country of origin and different variables that influence consumer purchase intention also highlight the relationship of variables and customer purchase intention. Study demonstrate that people care about which country products come from and where they are made and consider these factors when evaluating the quality of product. Stereotypes of country and the preferences of customers, influence the consumer purchase intention. Political system, culture and the economy of the country can be a cause of sensitivity to people.

(Gupta, 2013), discussed the availability of many alternatives within the city provides an opportunity to the consumers to make a rational decision after considering all the options. Today is an era which is characterized by a consumer's market where the manufacturers and marketers not only takes into consideration the consumer orientation to make them satisfied but goes one step ahead of achieving consumer delight.

(Srivastava&Tiwari, 2013), studied the consumer behavior for A3 segment vehicles such as Honda City and SX4 in a particular region Jaipur. Data collected from 100 respondents 50 each from Honda City and Maruti SX4. Respondents were considered from various backgrounds like Gender, Occupation, and Income class. Also customer purchase parameters considered for study are price, safety, comfort, power & pickup, mileage, max speed, styling, after sales service, brand name and spare parts cost.

3. NEED/IMPORTANCE OF THE STUDY

The Mid Segment Passenger cars, In the last couple of years has evolved significantly and demand for mid segment passenger cars has increased rapidly because there are actually three reasons:

- Increased localization of components.
- Government policies (like lower interest rates) that have made mid segment passenger cars affordable.
- In India growing number of young entrepreneurs inclined to drive Mid Segment Passenger cars is bringing about healthy demand for such cars.

4. STATEMENT OF THE PROBLEM

From this research I would like to explore:

Firstly, what are the influences when customers making Mid Segment Passenger cars purchase?

Secondly, to learn more about how consumer behaviour works, and

Thirdly, to find out how to improve strategies for promote sales of mid segment passenger cars.

5. OBJECTIVES

1. To clarify and get insight into Consumer buying behaviour Towards Mid-Segment Passenger Cars.
2. To study the perceptions of Consumer in respect of demographic profile.
3. To study consumers' expectations of Mid-Segment Passenger Cars.
4. To study the consumers wants and needs.
5. To study factors that influences the consumers towards online shopping.
6. On the basis of conclusions and tools developed, it can be suggested/ used for effective government and purchase policy formulation with a view to overcome present scenario of stagnancy in sales and cultivate future demand for online shopping.

6. HYPOTHESIS

NULL HYPOTHESIS: Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are same as consumer's responses of Jabalpur city.

ALTERNATIVE HYPOTHESIS: Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are not same as consumer's responses of Jabalpur city.

7. RESEARCH METHODOLOGY

The main purpose of study was to study the consumer behavior that purchases Mid Segment Passenger cars in Bhopal and Jabalpur city. Consumer buying behavior is influenced by many factors when making Mid Segment Passenger cars purchase. In order to provide good piece of work and build understanding in this subject we conducted initial research in literature on consumer buying behavior and Mid Segment Passenger cars. We have reviewed those theories and related studies that had similar areas to focus and give particular attention to their consequences.

For this research it is decided to use questionnaire approach that would be filled by people in Bhopal and Jabalpur city especially those people who are in my circle and from the general public and encourage them to respond on this questionnaire in order to increase the response rate, the questionnaire is limited to two sheet of A4 paper. This study is based on exploratory study but developed through exploratory study that's why research starts out with gaining knowledge regarding consumer behavior and then move towards consumer buying behavior. With the help of this knowledge and theories it will identify those factors that are of importance when online consumer is making purchasing especially in Bhopal and Jabalpur city. Then this data used in order to find relationships, means between these variables**.**

7.1 SAMPLE

The factor that intended to examine can be applied to and investigated in Bhopal and Jabalpur city population that uses the internet and buys electronic goods. Since there is time and resource constraint that is why specific population had been approached in order to generalize the results includes 400 respondents. The questionnaire was mainly distributed in two cities but the major reliance was on the distribution through personal contacts So 400 Respondents are studied for analysis and research.

7.1 (A) NON - PROBABILITY AND CONVENIENCE SAMPLING

In this study, we employed non-probability sample technique since it seemed to be suitable as the questionnaire would take place in Bhopal and Jabalpur city. Also, as sampling frame is unknown, in other word, i do not have a complete list of the population who have mid segment passenger car experience. Hence, probability sampling cannot be applied to the study.

7.2 DATA COLLECTION

Data can be collected in different ways depending on if it is primary or secondary data it is to be collected. Primary data is collected especially to answer the purpose and research questions of the current study. This data must be gathered by the researcher of the study at hand and can be done by questionnaires. In the first section of questionnaire demographic questions are used which are based on gender, age, income, education, etc. In the second section of questionnaire Likert scales generally are used to assess attitudes. It also can be used to measure the extent to which participants agree or disagree with a particular statement, and are useful for questions where there may be no clear responses, such as "yes" or "no". 5 point Likert scale is used for taking responses. The rating is based on:

1 = strongly agree 2 = agree 3 = Neither Agree nor Disagree 4 = Disagree 5 = Strongly Disagree

Secondary data is data that has been collected earlier, to fulfill the purpose of some other study. In order to form the conceptual framework of this study, Several Marketing and Management Journals, for example, Journal of Business and Industrial Marketing, books and e-books, newspaper articles, internet websites, and standard thesis were also searched. These data bases supplied us with a great amount of secondary sources, which developed into the foundation of our literature review.

8. RESULTS & DISCUSSION

8.1 DATA ANALYSIS

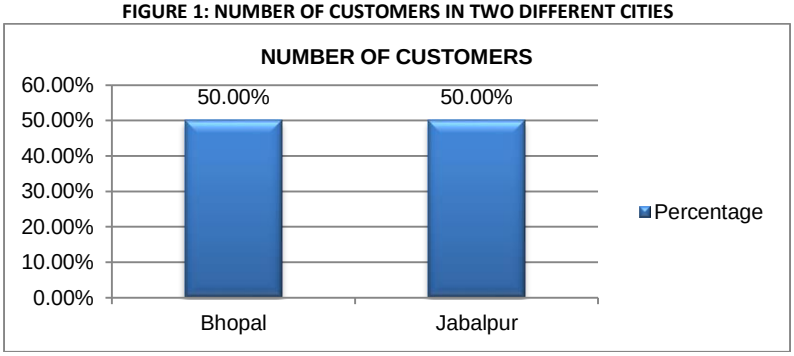
In this chapter presents all the empirical findings from this study. It mainly includes the findings from primary data which was collected by conducting in a quantitative method of a questionnaire among 400 respondents of two cities. The chapter is divided according to the research questions, meanwhile it also makes the findings according with the research model of online shopping behavior for electronic product. The first section illustrates the demographic of respondents which provide the general information about the respondents including their gender, age and monthly income. The second section presents the findings for the questions "how customers' attitude towards purchase of mid-segment passenger cars does influences their intention of starting/continue to buy mid-segment passenger cars". The last section is a summary about the comparison between the theoretical studies with the findings.

8.1 DEMOGRAPHY OF RESPONDENTS

TABLE 1: NUMBER OF CUSTOMERS OF TWO DIFFERENT CITIES

CITY	FREQUENCY	PERCENTAGE
Bhopal	200	50.0%
Jabalpur	200	50.0%
GRAND TOTAL	**400**	**100%**

FIGURE 1: NUMBER OF CUSTOMERS IN TWO DIFFERENT CITIES



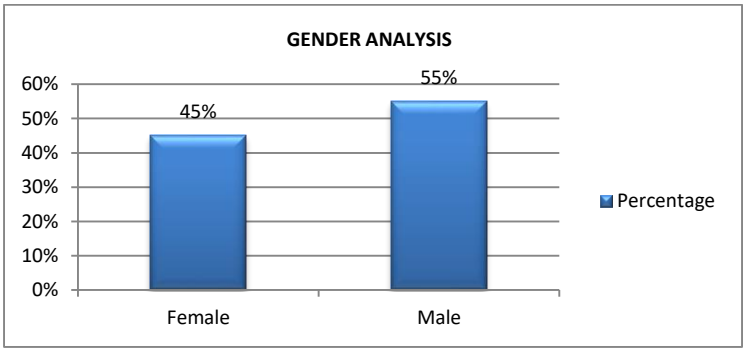
INTERPRETATION

The following figure shows that 50.0% customers belong to Bhopal city and 50.0% customers are from Jabalpur city.

TABLE 2: GENDER ANALYSIS

GENDER	FREQUENCY	PERCENTAGE
Female	180	45%
Male	220	55%
GRAND TOTAL	**400**	**100%**

FIGURE 2: GENDER ANALYSIS



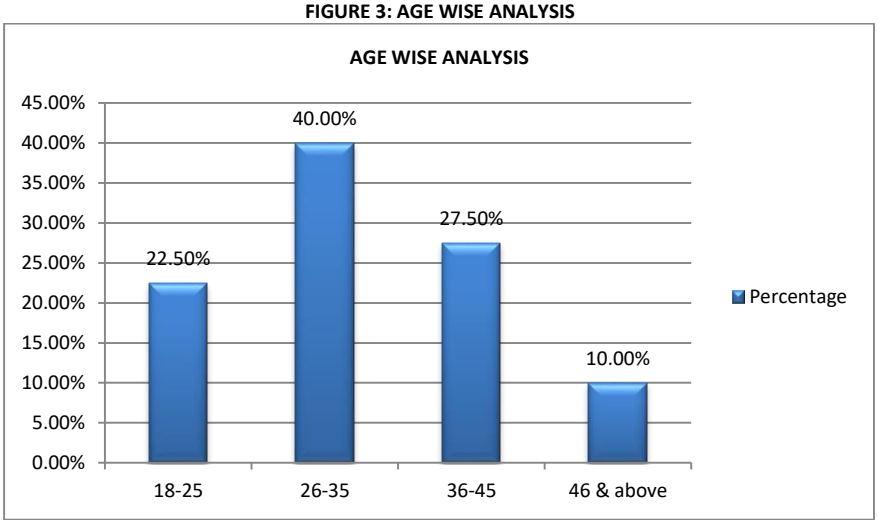
INTERPRETATION

From the above table and figure, we can easily analyze that in the survey majority of the respondents are male as compared to females, we found 55% of males and 45% percentage of females have participated in this survey.

TABLE 3: AGE ANALYSIS

AGE DISTRIBUTION	FREQUENCY	PERCENTAGE
18-25	90	22.5%
26-35	160	40.0%
36-45	110	27.5%
46 & above	40	10.0%
GRAND TOTAL	**400**	**100%**

FIGURE 3: AGE WISE ANALYSIS



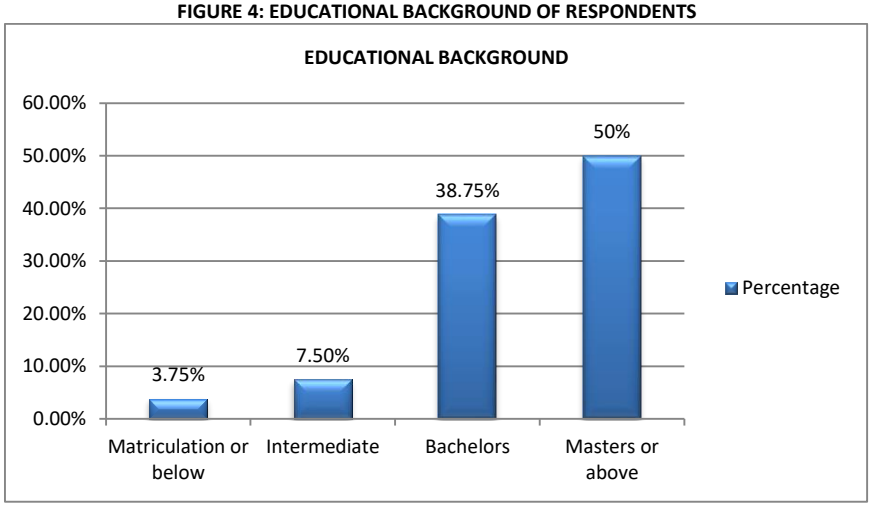
INTERPRETATION

From the figure named as age wise analysis, in this survey it is clear that we have 16 frequencies in the age of 26-35 with percentage 40% which is the highest percentage among other age distribution. In age distribution of 36-45 we have 27% and 23% fall in 18-25 age and rest 10% fall in 46 & above years old respondents. The questionnaire responses mainly show the young generation which is actively part of the research.

TABLE 4: EDUCATION ANALYSIS

EDUCATION BACKGROUND	FREQUENCY	PERCENTAGE
Matriculation or below	15	3.75%
Intermediate	30	7.5%
Bachelors	155	38.75%
Masters or Above	200	50.00%
GRAND TOTAL	**400**	**100%**

FIGURE 4: EDUCATIONAL BACKGROUND OF RESPONDENTS



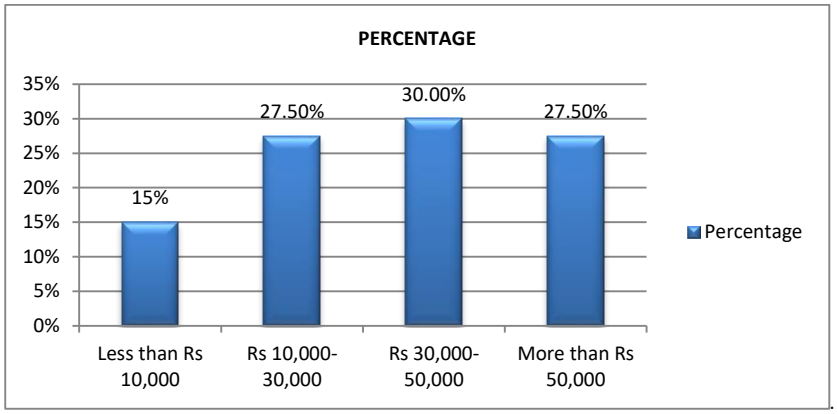
INTERPRETATION

The highest frequency 50% among the respondents falls under the category of Master's or above level of studies followed by the 38.75% who has the Bachelor's degree. A very nominal percentage of almost 7.5 % categorized in the intermediate level of studies and rest 3.75% fall under Matriculation or below category.

TABLE 5: INCOME DISTRIBUTION AMONG RESPONDENTS

INCOME DISTRIBUTION	FREQUENCY	PERCENTAGE
Less than Rs10,000	60	15.0%
Rs10,000-30,000	110	27.5%
Rs30,000- 50,000	120	30.0%
More than Rs50,000	110	27.5%
GRAND TOTAL	**400**	**100%**

FIGURE 5: INCOME DISTRIBUTION AMONG RESPONDENTS



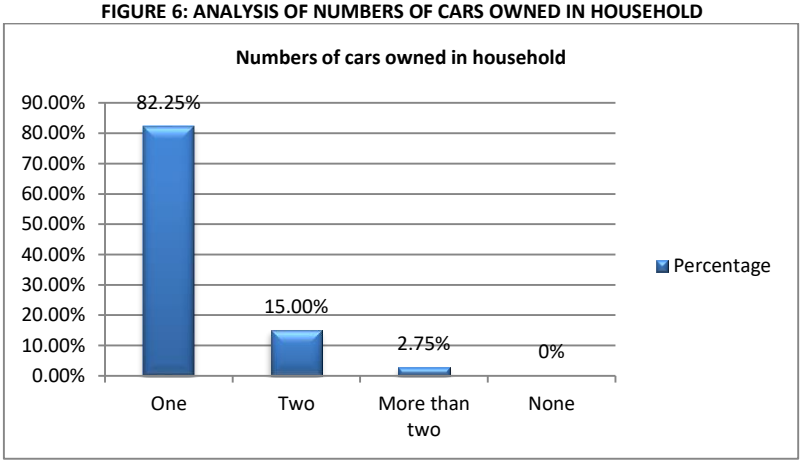
INTERPRETATION

From the survey it was analyzed that the highest frequency 30% in income distribution falls under Rs30, 000-50,000 and 27.5% fall under Rs10, 000-30,000 and more than Rs50, 000, smallest frequency 15% falls under less than Rs. 10, 000.

TABLE 6: ANALYSIS OF NUMBERS OF CARS OWNED IN HOUSEHOLD

NUMBERS OF CARS OWNED IN HOUSEHOLD	FREQUENCY	PERCENTAGE
One	329	82.25%
Two	60	15.00%
More than two	11	2.75%
None	0	0%
GRAND TOTAL	**400**	**100%**

FIGURE 6: ANALYSIS OF NUMBERS OF CARS OWNED IN HOUSEHOLD



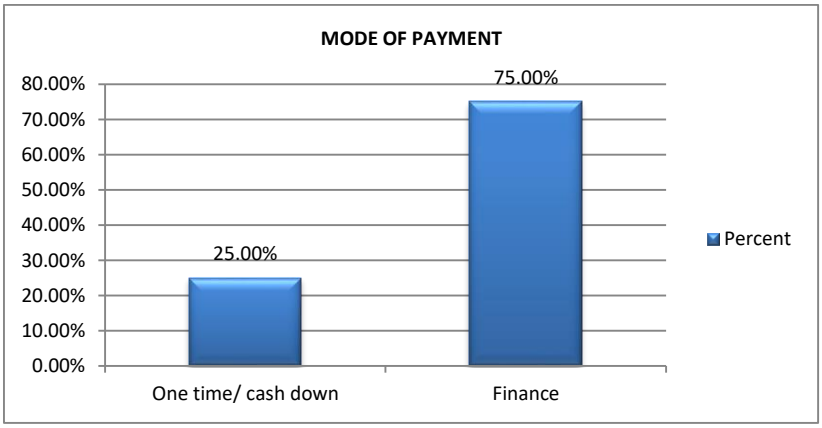
INTERPRETATION

From the above table and figure, we can easily analyze that in the survey majority of the respondents 82.25% have one car owned in their household, 15% respondents having two cars and very nominal 2.75% having more than two cars in their household.

TABLE 7: ANALYSIS OF MODE OF PAYMENT FOR BUYING A CAR

MODE OF PAYMENT	FREQUENCY	PERCENTAGE
One time/Cash Down	100	25.0%
Finance	300	75.0%
GRAND TOTAL	**400**	**100%**

FIGURE 7: ANALYSIS OF MODE OF PAYMENT FOR BUYING A CAR



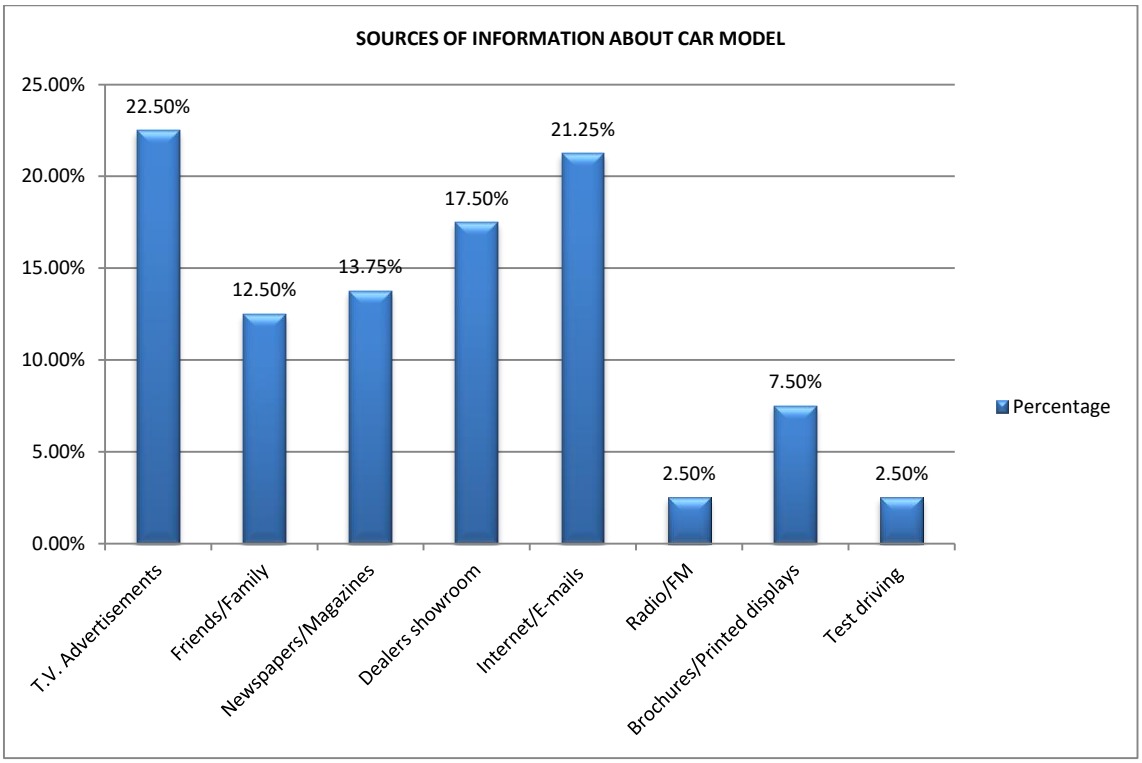
INTERPRETATION

From the above table and figure, we can easily analyze that majority of the respondents prefer finance as mode of payment for buying a car in the survey as compared to one time/cash down, we have 75% customers prefer Finance and 25% customers prefer one time/cash down in this survey.

TABLE 8: ANALYSIS OF SOURCES OF INFORMATION ABOUT CAR MODEL BEFORE PURCHASING

SOURCES OF INFORMATION ABOUT CAR MODEL	FREQUENCY	PERCENTAGE
T.V. Advertisements	90	22.5%
Friends/Family	50	12.5%
Newspapers/Magazines	55	13.75%
Dealers showroom	70	17.5%
Internet/E-mails	85	21.25%
Radio/FM	10	2.5%
Brochures/Printed displays	30	7.5%
Test driving	10	2.5%
GRAND TOTAL	**400**	**100%**

FIGURE 8: ANALYSIS OF SOURCES OF INFORMATION ABOUT CAR MODEL BEFORE PURCHASING



INTERPRETATION

From the figure named as Analysis of Sources of Information about car model before purchasing, it is clear that in this survey we have 90 frequencies of the T.V. Advertisements with percentage of 22.5% which is the highest percentage among other Sources of Information. In Sources of Information about car model before purchasing we have Internet/E-mails with percentage of 21.25% and 17.5% comes under dealer's showroom. Test driving, radio/FM very nominal percentage of almost 2.5% categorized in the Test driving, radio/FM.

TABLE 9 given Below Is A List Of Variables That Affects An Individual In Selecting A Mid-Segment Passenger Car. Please Indicate Your Degree Of Agreement With The Following Statements:

1 = STRONGLY AGREE, 2 = AGREE, 3 = NEITHER AGREE, NOR DISAGREE, 4 = DISAGREE, 5 = STRONGLY DISAGREE.

TABLE 9

DESCRIPTIVE									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
A Mid-segment car is a Luxurious Item	1	225	1.53	.620	.041	1.45	1.61	1	3
	2	175	4.03	.880	.067	3.90	4.16	3	5
	Total	400	2.63	1.446	.072	2.48	2.77	1	5
Good after sales service is necessary	1	225	1.02	.148	.010	1.00	1.04	1	2
	2	175	2.91	.999	.076	2.77	3.06	2	5
	Total	400	1.85	1.154	.058	1.74	1.96	1	5
A mid-segment car is a Symbol of social status	1	225	1.11	.315	.021	1.07	1.15	1	2
	2	175	2.69	.823	.062	2.56	2.81	2	5
	Total	400	1.80	.981	.049	1.70	1.90	1	5
A car is a Source of entertainment	1	225	1.16	.363	.024	1.11	1.20	1	2
	2	175	3.71	1.087	.082	3.55	3.88	2	5
	Total	400	2.28	1.485	.074	2.13	2.42	1	5
I have purchased a car because of Family requirement	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	2.89	1.093	.083	2.72	3.05	1	5
	Total	400	1.83	1.182	.059	1.71	1.94	1	5
I prefer Friends/family members recommendation	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	2.26	1.081	.082	2.10	2.42	1	5
	Total	400	1.55	.949	.047	1.46	1.64	1	5
Easy finance influence me to purchase a mid-segment car	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	2.14	1.294	.098	1.95	2.34	1	5
	Total	400	1.50	1.026	.051	1.40	1.60	1	5
Safety is a necessary feature	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	3.23	1.224	.093	3.05	3.41	1	5
	Total	400	1.98	1.371	.069	1.84	2.11	1	5
Latest technology influence me to purchase a mid-segment passenger car	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	2.71	1.489	.113	2.49	2.94	1	5
	Total	400	1.75	1.301	.065	1.62	1.88	1	5
Guarantee/Warranty of a car motivates me to purchase	1	225	1.00	.000	.000	1.00	1.00	1	1
	2	175	1.74	.733	.055	1.63	1.85	1	3
	Total	400	1.33	.609	.030	1.27	1.38	1	3
Brand image is necessary to purchase a mid-segment Passenger car	1	225	1.31	.510	.034	1.24	1.38	1	3
	2	175	4.26	.842	.064	4.13	4.38	3	5
	Total	400	2.60	1.611	.081	2.44	2.76	1	5

QUESTIONS	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
A Mid-segment car is a Luxurious Item	12	9	8	4	7
Good after sales service is necessary	22	8	5	2	2
A mid-segment car is a Symbol of social status	20	11	7	1	1
A car is a Source of entertainment	19	6	6	3	6
I have purchased a car because of Family requirement	24	5	7	2	2
I prefer Friends/family members recommendation	27	7	4	1	1
Easy finance influence me to purchase a mid-segment car	30	4	4	0	2
Safety is a necessary feature	22	6	4	3	4
Latest technology influence me to purchase a mid-segment passenger car	27	5	3	1	4
Guarantee/Warranty of a car motivates me to purchase	30	7	3	0	0
Brand image is necessary to purchase a mid-segment Passenger car	16	6	5	4	9

ANOVA TABLE						
		Sum of Squares	*d. f.*	*Mean Square*	*F*	*Sig.*
A Mid-segment car is a Luxurious Item	Between Groups	612.893	1	612.893	1104.476	.000
	Within Groups	220.857	398	.555		
	Total	833.750	399			
Good after sales service is necessary	Between Groups	352.397	1	352.397	785.282	.000
	Within Groups	178.603	398	.449		
	Total	531.000	399			
A mid-segment car is a Symbol of social status	Between Groups	244.063	1	244.063	694.152	.000
	Within Groups	139.937	398	.352		
	Total	384.000	399			
A car is a Source of entertainment	Between Groups	644.480	1	644.480	1090.251	.000
	Within Groups	235.270	398	.591		
	Total	879.750	399			
I have purchased a car because of Family requirement	Between Groups	350.036	1	350.036	670.701	.000
	Within Groups	207.714	398	.522		
	Total	557.750	399			
I prefer Friends/family members recommendation	Between Groups	155.571	1	155.571	304.369	.000
	Within Groups	203.429	398	.511		
	Total	359.000	399			
Easy finance influence me to purchase a mid-segment car	Between Groups	128.571	1	128.571	175.588	.000
	Within Groups	291.429	398	.732		
	Total	420.000	399			
Safety is a necessary feature	Between Groups	488.893	1	488.893	745.923	.000
	Within Groups	260.857	398	.655		
	Total	749.750	399			
Latest technology influence me to purchase a mid-segment passenger car	Between Groups	289.286	1	289.286	298.500	.000
	Within Groups	385.714	398	.969		
	Total	675.000	399			
Guarantee/Warranty of a car motivates me to purchase	Between Groups	54.321	1	54.321	231.406	.000
	Within Groups	93.429	398	.235		
	Total	147.750	399			
Brand image is necessary to purchase a mid-segment Passenger car	Between Groups	854.349	1	854.349	1871.894	.000
	Within Groups	181.651	398	.456		
	Total	1036.000	399			

INTERPRETATION

The above table shows that the calculated value of F is greater than the table value i.e. 3.864 at 5% level of significance with d. f. being v1 = 1 and v2 = 398. This analysis not supports the null-hypothesis that there is difference in sample means. I may, therefore, conclude that Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are same as consumer's responses of Jabalpur city is insignificant and this supports the alternate hypothesis that the Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are not same as consumer's responses of Jabalpur city. So there is difference between consumer responses.

9. FINDINGS

1) 50.0% customers belong to Bhopal city and 50.0% customers are from Jabalpur city.
2) Majority of the respondents are male as compared to females, we found 55% of males and 45% percentage of females.
3) Age of 26-35 with percentage 40% which is the highest percentage among other age distribution. In age distribution of 36-45 we have 27% and 23% fall in 18-25 age and rest 10% fall in 46 & above years old respondents.
4) The highest frequency 50% among the respondents falls under the category of Master's or above level of studies followed by the 38.75% who has the Bachelor's degree. A very nominal percentage of almost 7.5 % categorized in the intermediate level of studies and rest 3.75% fall under Matriculation or below category.
5) From the survey it was analyzed that the highest frequency 30% in income distribution falls under Rs. 30, 000-50,000 and 27.5% fall under Rs. 10, 000-30,000 and more than Rs. 50, 000, smallest frequency 15% falls under less than Rs. 10, 000.
6) In the survey majority of the respondents 82.25% have one car owned in their household, 15% respondents having two cars and very nominal 2.75% having more than two cars in their household.
7) Majority of the respondents prefer finance as mode of payment for buying a car in the survey as compared to one time/cash down, we have 75% customers prefer Finance and 25% customers prefer one time/cash down in this survey.
8) It is clear that in this survey we have 90 frequencies of the T.V. Advertisements with percentage of 22.5% which is the highest percentage among other Sources of Information. In Sources of Information about car model before purchasing we have Internet/E-mails with percentage of 21.25% and 17.5% comes under dealer's showroom. Test driving, radio/FM very nominal percentage of almost 2.5% categorized in the Test driving, radio/FM.
9) From the ANOVA table it can be analyze that this analysis not supports the null-hypothesis that there is difference in sample means. Therefore, it concludes that Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are same as consumer's responses of Jabalpur city is insignificant and this supports the alternate hypothesis that the Consumers responses towards purchase of Mid Segment Passenger cars of Bhopal city are not same as consumer's responses of Jabalpur city. So there is difference between consumer responses.

10. RECOMMENDATIONS/SUGGESTIONS

- Study in other states of India. So that it explores understanding of consumer behaviour towards mid-segment passenger cars in other regions in India too.
- This study is related consumer behaviour, but it specified to electronic product field, even if the further research will be focused on other fields, it also can take this study as a basis.
- Study in other countries where online shopping is equally popular and have equal market shares, gives feasible area for a comparative study.
- The further research should take wider places and more general samples.

11. CONCLUSIONS

With the blooming of car shopping activities, the mid-segment passenger car market takes a high percent of individuals shopping on it. Understand the customers' car purchasing behavior for mid-segment passenger car field, improving the important specific factors influencing the purchase of mid-segment passenger car in two different cities will help the manufacturers and dealers become more competitive. Therefore, this study is to investigate the specific factors affecting customers' attitude to mid-segment passenger car in two different cities. I believed that the findings can offer the mid-segment passenger car manufacturers and dealers a detailed picture about how to make effective efforts on specific factors to lead the customers to have positive attitudes toward purchase of mid-segment passenger car and form strong buying intention toward mid-segment passenger car.

12. LIMITATIONS

- This study is mainly focuses on the behavior of the consumers in the process of mid-segment passenger car purchasing in Bhopal and Jabalpur city.
- This study is limiting itself on the scenario to identify consumer behavior variables in the buying process of mid-segment passenger car.
- This study limits itself only to consumer buying behaviour towards mid-segment passenger cars.
- This study was concentrated on consumer buying behaviour, but narrowed down to a specific mid-segment passenger cars field; however, there is lack for the consumer buying behaviour towards mid-segment passenger cars research. Thus, we utilized the limited sources to support our research.

13. SCOPE FOR FURTHER RESEARCH

- Study in other states of India. So that it explores understanding of consumer buying behaviour towards mid-segment passenger cars in other regions in India too.
- This study is related to consumer buying behaviour, but it specified to mid-segment passenger cars field, even if the further research will be focused on other fields, it also can take this study as a basis.
- Study in other countries where consumer buying behaviour are equally popular and have equal market shares, gives feasible area for a comparative study.
- The further research should take wider places and more general samples.

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APPENDIX/ANNEXURE

QUESTIONNAIRE

KINDLY TICK WHERE APPROPRIATE:

1. From which city you belong

a. Bhopal b. Jabalpur

2. What is your gender?

a. Male b. Female

3. Your age?

a.18 - 25 b. 26-35
c.35 - 45 d. 46 & above

4. What is your level of education?

a. Matriculation or below b. Intermediate
c. Bachelors d. Masters or Above

5. What is your monthly income?

a. Less than Rupees 10,000 b. Rupees 10,000-30,000
c. Rupees 30,000- 50,000 d. More than Rupees 50,000

6. How many cars do you owned in your household?

a. One b. Two
c. More than two d. None

7. Mode of payment you did opt for buying a car:

a. One time/Cash Down b. Finance

8. Sources of Information about car model before you purchased it:

a. T.V. Advertisements	b. Friends/Family	c. Newspapers/Magazines	d. Dealers showroom
e. Internet/E-mails	f. Radio/FM	g. Brochures/Printed displays	h. Test driving

9. Given Below is a List of Variables that affects an individual in selecting a mid-segment passenger car. please indicate your degree of agreement with the following statements:

1 = STRONGLY AGREE, 2 = AGREE, 3 = NEITHER AGREE, NOR DISAGREE, 4 = DISAGREE, 5 = STRONGLY DISAGREE.

A Mid-segment car is a Luxurious Item	
Good after sales service is necessary	
A mid-segment car is a Symbol of social status	
A car is a Source of entertainment	
I have purchased a car because of Family requirement	
I prefer Friends/family members recommendation	
Easy finance influence me to purchase a mid-segment car	
Safety is a necessary feature	
Latest technology influence me to purchase a mid-segment passenger car	
Guarantee/Warranty of a car motivates me to purchase	
Brand image is necessary to purchase a mid-segment Passenger car	

THANK YOU FOR YOUR CO-OPERATION

(Signature of Respondent)

DEPOSITORY SYSTEM IN INDIAN CAPITAL MARKET: AN OVERVIEW

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ABSTRACT

In the recent times, Indian Capital market have witnessed various reforms and one of the important reforms which helps the capital market in their rapid growth which was introduced in 1996. This system helps the investors to invest in the capital market electronically which will eliminate the problems like bad delivery of shares and share certificates, transferability of shares, easy investment in the capital market, reduction of the cost of trading and it provides round the clock services to the investors through depository participants. The aim of this research paper is to understand the concept of depository system and to identify the contents of depository system in India because trading is being done in the stock market electronically and still a very limited literature is available. In this research paper, an effort has been made to discuss the depository system. This study is based upon the secondary sources.

KEYWORDS

depository system, depository participants, investors, stock market.

INTRODUCTION

The earlier settlement system on Indian stock exchanges was very inefficient as it was unable to take care of the transfer of securities in a quick/speedy manner. Since, the securities were in the form of physical certificates; their quick movement was again difficult. This led to settlement delays, theft, forgery, mutilation and bad deliveries and also to added costs. To wipeout these problems, the Depositories Act 1996 was passed. It was formed with the purpose of ensuring free transferability of securities with speed, accuracy & security. It has been able to do so by:

- Making securities of public limited companies freely transferable, subject to certain exceptions;
- Dematerializing the securities in the depository mode; and
- Providing for maintenance of ownership records in a book entry form.

For performing the above tasks, two depositories viz, NSDL & CDSL have come up. National Securities Depository Limited (NSDL) does the above tasks for the trades done on NSE. It is a joint venture of: · IDBI (Industrial Development Bank of India Limited); · NSE (National Stock Exchange); and · UTI (Unit Trust of India). NSDL is the first depository set up in India. It was registered by SEBI on June 7, 1996. The second depository is the Central Depository Services Limited (CDSL) which has been promoted by Bombay Stock Exchange and Bank of India. It was formed in February 1999. Both depositories have a network of Depository Participants (DPs) which are further electronically connected to their clients. So, DPs act as a link between the depositories and the clients. The Depository system to some extent works like the banking system. There is a central bank and the rules and regulations related to the working of all the commercial, foreign, co-operative and other types of banks are framed by the central bank. In order to do the daily transactions, the investors open an account called Demat account with the associate banks, and not with the central one. Like an investor can have a bank account with more than one bank, similarly one can have more than one Demat Account.[1]

DEVELOPMENTS OF SECURITIES DEPOSITORIES (SDs)

National Securities Depositories existed in Europe before World War II with the earliest being in Germany during Bismarck's time. In USA, the securities industry was enjoying the prosperity of an economic resurgence during 1960s. The average trade volume on the New York Stock Exchange (NYSE) grew from 3 million shares per day in 1960 to 12 million in 1970. On April 1, 1968 trading on the NYSE broke the previous record of October 29, 1929. Before the year ended, the record was broken in an additional 24 times and the expression 'paperwork crisis' had entered the nation's agenda. To cope with the situation, a number of temporary measures were taken like closing the market on Wednesdays, shortened trading days, and extending settlement from four to five days. In mid-1961, the NYSE together with Bankers Trust Company, The Chase Manhattan Bank and First National City Bank of New York initiated the 'Pilot Operation for Central Handling of Securities' with modest 15 securities and 31 firms. The deliveries were made between members via book-entry and without the physical movement of certificates. Movement towards immobilizing of shares in a vault begins with the millions of certificates held in 'street name' by NYSE member firms. Transfer of ownership among members could then be accomplished with accounting entries - book entry- eliminating physical certificate movement and the mushrooming paperwork needed to transfer them that is Central Certificate Service (CCS). This was activated on a limited basis in June 1968 and by the end of 1969, there were 464 million shares deposited with CCS. In search of a long-term solution to the problem, an organisation named Banking and Securities Industry Committee (BASIC) was constituted to design a model to take care of future developments in the industry. After deliberations, a two-stage evolution of the CCS into an expanded depository system was conceived. In the first stage, CCS was to move from a division of the Stock Clearing Corporation and become a wholly owned subsidiary of the Exchange (CCS Inc.) with representatives of the American Stock Exchange (Amex), National Association of Securities Dealers (NASD), and NYSE members on its board. The newly formed subsidiary would then seek a trust company charter under New York State Banking Law and Federal Reserve membership. In the second step, its users would share ownership of the depository. In this direction, CCS began the preliminary steps in March 1972, starting a yearlong process, which CCS Inc. would complete with the submission of a formal charter application on December 28, 1972. Later, the transfer of operations from CCS Inc. to Depository Trust Company was completed on May 11, 1973. The Depository Trust Company (DTC) superseded CCS in 1973. DTC was independent from the exchange and therefore, facilitated the participation of banks and institutions in DTC activities along with securities firms. DTC and National Securities Clearing Corporation (NSCC) have been merged to form Depository Trust and Clearing Corporation (DTCC) in 2000.

The japan Securities Depository center was founded in 1984 to immobilize securities transfer in Japan. On May 5, 1989, Hong Kong Securities Clearing Company Ltd. was established and many other countries in the Asian Pacific Rim and other countries slowly started setting up Central Securities Depositories (CDS) either to immobilise or to dematerialise securities.

In 1993, Deutscher Kassenverein (DKV), the German Depository, became DTC's first international participant. Recognising the need to provide a single American focus for international clearance and settlement, DTC and NSCC formed, in 1996, the International Depository & Clearing LLC (IDC), a jointly owned subsidiary to concentrate on cross-border settlement issues from a research, marketing and development standpoint.

In UK, the Bank of England, at the request of the London Stock Exchange, established and shared a Task Force on securities settlement under the chairmanship of Mr. Pen Kent, a Director of the Bank of England in March 1993. The Task Force recommended the introduction of rolling settlement and a new settlement service to be called CREST. The CRESTCo Limited was inaugurated on July 15, 1996.

NEED FOR DEPOSITORY IN INDIA

Clearing and settlement in equity shares in India, till recently, used to be only on "accounting period basis". Accounting period clearance and settlement increases both market and credit risk and also affects, smooth functioning of stock exchanges. Therefore, there was an urgent need to shift to rolling settlement. Nevertheless, Indian markets had paper based clearance system. Dematerialisation was needed if the industry had to move from the present accounting period settlement cycle to trade-date-plus- 5(T + 5) or even to trade-date-plus-3(T + 3) or to a trade-date-plus-zero (T + 0) cycle. If our financial markets are to continue expanding and globalising, there is a need keep identifying and eliminating those components of the clearance and settlement processes that are paper-intensive, error-prone and time-consuming. Refining and streamlining these sub-processes will help make our financial markets more efficient.

Historically retail and small investors were the dominant players in the Indian capital market till early part of 1990s. Financial institutions and insurance companies were not very active in the secondary market although they used to take a large chunk of equity in the primary market by participating through project finance and other routes. Unit Trust of India (UTI) was alone big institutional player in the equity market, primary as well as secondary, till late 1980s. With the advent of public sector banks and institutions sponsored mutual funds and offshore funds, the presence and influence of the institutions has grown in the market place. In the early nineties, Indian capital market further opened up to allow the entry of private sector mutual funds and foreign institutional investors (FIIs),[2] with the frequent growth in the activities and operations of capital market, the involvement of the investors increased and in the era of paying more emphasis upon customer services the mechanism of capital market felt the need of providing round the clock secured investment services which caused introduction of the depository system.

REVIEW OF LITERATURE

Aggarwal and Dixit (1996)[3] communicated their views about the legal framework for depository system in India in a critical way. They differentiated the scrip less and scrip trading in the Indian capital market. **Raja and Marathe (2000)[4]** have studied the cost of equity shares transaction in physical mode and d-mat mode. They found that the average cost for the FII's in India is lower than stock market of Singapore, China, and Thailand, due to dematerialization the transaction cost of FII's have come down by 60 % and for mutual funds by 75% which shows that dematerialization in the Indian capital market, not only brings the technological revolution but it helps in reducing the cost and increases the efficiency. **Goswami (2003)[5]** studied the stock trading in India through internet and she concluded that the net can help lower the cost of transactions, improve customer data, increase cost-selling opportunities, and integrate new financial products. **Schmiedel et. al. (2006)[6]** analysed the existence and extent of economies of scale in depository and settlement systems in his study. The study indicates the existence of significant economies of scale but degree of such economies differs by settlement, institution and region. **Karan (2008)[7]** highlighted that dematerialization has certainly brought about lot of improvement in the investment habits in our Country, it is bane for the companies and has created havoc in maintaining the members register and in conducting the members meeting. **Singh and Goyal (2011)[8]** they found that the education of the investors plays an important role in decision making where the difference in the opinions of the investors is found significant in most of the cases followed by other factors. **Garg and Katiyar (2013)[9]** studied customer's perception towards on line share trading in Kanpur and finds that online investing has benefits to offer investors as well as brokers. **Dhnada et.al. (2015)[10]** describes that dematerialization of shares is an important milestone in the annals of Indian Capital Markets. Understanding and measuring the impact of it on various segments is necessary since it stirred the microstructure of Indian capital markets in general and stock exchanges in particular.

In Indian Capital market, dematerialization has been introduced in the year 1996 but still limited scholarly work has been done on this research problem and mainly of the work is related to the comparison of two depository giants i.e. NSDL and CDSL whereas aware the people about the basic concept of the depository system is absent. So in this study, an attempt has been made to describe the basic concept of the depositor system and the key players of the depository system as well.

OBJECTIVES OF THE STUDY

1. To understand the concept of depository system
2. To identify the contents of depository system in India

RATIONALE OF THE STUDY

Capital Market is considered as the barometer of the economic growth of the economy particularly in the era when technology has been changing rapidly. So that in the consideration of the technology, it has been introduced in the Indian capital market and as a result depository system has been introduced. The need was felt to conduct the study about depository system so that there is understanding and the identification of the contents of the depository system in India.

DEPOSITORY

A Depository is an organization like a Central Bank where the securities of a shareholder are held in the electronic form at the request of the shareholder through the medium of a Depository Participant. To utilize the services offered by a Depository, the investor has to open an account with the Depository through a Depository Participant.

According to Section 2(e) of the Depositories Act, 1996. "Depository means a company formed and registered under the Companies Act, 2013 and which has been granted a certificate of registration under Section 12(1A) of the SEBI Act, 1992".

There are two Depositories functioning in India, namely the National Securities Depository Limited (NSDL) and the Central Depository Services (India) Limited (CDSL). Under the provisions of the Depositories Act, these Depositories provide various services to investors and other Participants in the capital market, such as, clearing members, stock exchanges, investment institutions, banks and issuing corporates. These include basic facilities like account opening, dematerialization, dematerialization, settlement of trades and advanced facilities like pledging, distribution of non-cash corporate actions, distribution of securities to allottees in case of public issues, etc.

All the securities held by a depository shall be dematerialized and shall be in a fungible form. To utilize the services offered by a depository, the investor has to open an account with the depository through a participant, similar to the opening of an account with any of the bank branches to utilize services of that bank. Registration of the depository is required under SEBI (Depositories and Participants) Regulations, 1996 and is a precondition to the functioning of the depository. Depository and depository participant both are regulated by SEBI.

CONTENTS OF THE DEPOSITORY SYSTEM

There are essentially four players in the depository system viz. a) the depository b) the depository participant c) the beneficial owner and d) the issuer.

A) THE DEPOSITORY

The depository is a firm wherein the securities of investors are held in electronic form. It functions as a custodian of securities of its units. The name of the depository appears in the records of the issuer as the registered owner of the securities, the rights of the depository are concerned only with the transfer of scrip and there are no other rights. In India, there are two depositories, NSDL and CDSL.

B) THE PARTICIPANT

A participant is an agent of the depository. He functions as a bridge between the depository and the beneficial owners. He maintains the ownership records of every beneficial owner in book entry form. The relationship between the depository and the participant is governed by their bye laws. The relationship between

the DPs and the depository is governed by an agreement made between the two under the Depositories Act. In a strictly legal sense, a DP is an entity who is registered as such with SEBI under the sub section 1A of Section 12 of the SEBI Act. As per the provisions of this Act, a DP can offer depository-related services only after obtaining a certificate of registration from SEBI.

C) THE BENEFICIAL OWNER

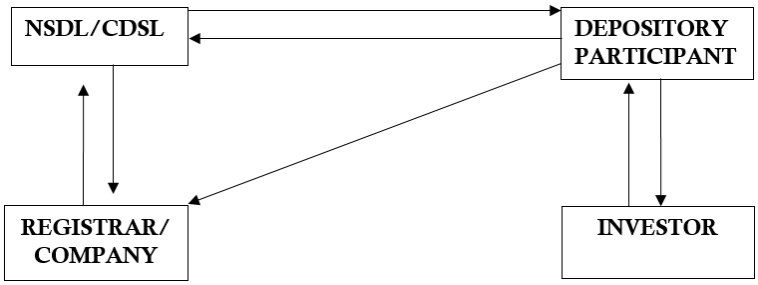
A beneficial owner is the real owner of the security lodged with the depository for custody which is of course, in the form of book entry and who would have his name recorded in the register of beneficial owners maintained by the depository. He will have all the rights and liabilities associated with the securities.

D) THE ISSUER

The issuer is the company which issues the security. It maintains a register for recording the names of the registered owners of securities. When the shareholders opt for the depository system, the issuing company sends a list of such shareholders to the depositories. The constituents of depository process are depicted as under:

DEMATERIALIZATION PROCESS

FIG. 1



- Investor surrenders certificates for dematerialization to DP
- DP intimates NSDL of the request through the system
- DP submits the certificates to the registrar
- Registrar confirms the dematerialization request from NSDL/CDSL
- After dematerializing, registrar updates accounts and informs NSDL for the completion of dematerialization
- NSDL updates its accounts and informs DP
- DP updates its accounts and informs investor.[11]

BENEFITS OF DEPOSITORY SYSTEM

In the depository system, the ownership and transfer of securities takes place by means of electronic book entries. At the outset, this system rids the capital market of the dangers related to handling of paper. The system provides numerous direct and indirect benefits, like:

1. **Elimination of bad deliveries** - In the depository environment, once holdings of an investor are dematerialised, the question of bad delivery does not arise i.e. they cannot be held "under objection". In the physical environment, buyer of shares was required to take the risk of transfer and face uncertainty of the quality of assets purchased. In a depository environment good money certainly begets good quality of assets.
2. **Elimination of all risks associated with physical certificates** - Dealing in physical securities have associated security risks of theft of stocks, mutilation of certificates, loss of certificates during movements through and from the registrars, thus exposing the investor to the cost of obtaining duplicate certificates and advertisements, etc. This problem does not arise in the depository environment.
3. **Immediate transfer and registration of securities** - In the depository environment, once the securities are credited to the investors account on pay out, he becomes the legal owner of the securities. There is no further need to send it to the company's registrar for registration. Having purchased securities in the physical environment, the investor has to send it to the company's registrar so that the change of ownership can be registered. This process usually takes around three to four months and is rarely completed within the statutory framework of two months thus exposing the investor to opportunity cost of delay in transfer and to risk of loss in transit. To overcome this, the normally accepted practice is to hold the securities in street names i.e. not to register the change of ownership. However, if the investors miss a book closure the securities are not good for delivery and the investor would also stand to lose his corporate entitlements.
4. **Faster disbursement of non-cash corporate benefits like rights, bonus, etc**. – Depository system provides for direct credit of non-cash corporate entitlements to an investors account, thereby ensuring faster disbursement and avoiding risk of loss of certificates in transit.
5. **Reduction in brokerage by many brokers for trading in dematerialized securities** - Brokers provide this benefit to investors as dealing in dematerialized securities reduces their back office cost of handling paper and also eliminates the risk of being the introducing broker. Reduction in handling of huge volumes of paper and periodic status reports to investors on their holdings and transactions, leading to better controls.
6. **Elimination of problems related to change of address of investor, transmission, etc**. - In case of change of address or transmission of demat shares, investors are saved from undergoing the entire change procedure with each company or registrar. Investors have to only inform their DP with all relevant documents and the required changes are effected in the database of all the companies, where the investor is a registered holder of securities.
7. **Elimination of problems related to selling securities on behalf of a minor** - A natural guardian is not required to take court approval for selling demat securities on behalf of a minor.

KEY FEATURES OF THE DEPOSITORY SYSTEM IN INDIA

1. Multi-Depository System: The depository model adopted in India provides for a competitive multi-depository system. There can be various entities providing depository services. A depository should be a company formed under the Company Act, 2013 and should have been granted a certificate of registration under the Securities and Exchange Board of India Act, 1992. Presently, there are two depositories registered with SEBI, namely:

- National Securities Depository Limited (NSDL), and
- Central Depository Service Limited (CDSL)

2. Depository Services through Depository Participants: The depositories can provide their services to investors through their agents called depository participants. These agents are appointed subject to the conditions prescribed under Securities and Exchange Board of India (Depositories and Participants) Regulations, 1996 and other applicable conditions.

3. Dematerialisation: The model adopted in India provides for dematerialisation of securities. This is a significant step in the direction of achieving a completely paper-free securities market. Dematerialization is a process by which physical certificates of an investor are converted into electronic form and credited to the account of the depository participant.

4. Fungibility: The securities held in dematerialized form do not bear any notable feature like distinctive number, folio number or certificate number. Once shares get dematerialized, they lose their identity in terms of share certificate, distinctive numbers and folio numbers. Thus all securities in the same class are identical and interchangeable. For example, all equity shares in the class of fully paid up shares are interchangeable.

5. Registered Owner/ Beneficial Owner: In the depository system, the ownership of securities dematerialized is bifurcated between Registered Owner and Beneficial Owner. According to the Depositories Act, 1996 'Registered Owner' means a depository whose name is entered as such in the register of the issuer. A 'Beneficial Owner' means a person whose name is recorded as such with the depository. Though the securities are registered in the name of the depository actually holding them, the rights, benefits and liabilities in respect of the securities held by the depository remain with the beneficial owner. For the securities dematerialized, NSDL/CDSL is the Registered Owner in the books of the issuer; but ownership rights and liabilities rest with Beneficial Owner. All the rights, duties and liabilities underlying the security are on the beneficial owner of the security.

6. Free Transferability of shares: Transfer of shares held in dematerialized form takes place freely through electronic book-entry system.[12]

CONCLUSION AND SUGGESTIONS

In the consideration of the advantages of the depository system, it is concluded that the introduction of the depository system gives a new life to the Indian Capital Market. The introduction of the depository system can be considered one of the greatest or biggest reforms of all times in the Indian capital market. This reform helps Indian Capital to grow in the faster rate and to work efficiently. It eliminates the problem like bad delivery of certificate and shares, free transferability of shares, with the help of the depository system any one can trade in the stock market easily. One of the notable things of this system is that investors can invest their savings in the capital market through depository participants and this whole system is run by the centralized system which is controlled by the depository i.e. NSDL and CDSL so that the savings of the investors are protected with the depositories.

The depository system has been introduced in the Indian Capital market in the year 1996 and limited number of studies have been carried out consequently, awareness about depository system can be expected very low keeping in view, the conclusions drawn from the study, the following measures are suggested:

There is a need on the part of depository participants to be more open and more frequent to interact with people and convince them to avail the services of depository system as per their occupational expectations. There is need to discuss the concepts of depository system and their role and as well as uses with the researchers by the executives of depository participants and merchant bankers.

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DISTRIBUTION PATTERN OF HOUSEHOLD ASSETS AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB

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ABSTRACT

This paper deals with the distribution pattern of household assets among the general caste, backward caste and scheduled caste landless households in the rural areas of Punjab. The present study reveals that general caste landless households have a better position in comparison to backward caste and scheduled caste landless households in terms of ownership of household assets in rural areas of Punjab. As a symbol of better socio-economic status in the society, the value of all household assets shows an increasing tendency with increase in social status of landless households in the rural areas of Punjab. The distribution pattern of livestock assets reveals that the share of buffaloes and cows is more among the total livestock assets because buffaloes and cows are the main livestock assets which provide nutritional security as well as these poor households sell milk and its products for supplement their household income. The analysis of ownership of assets reveals that the total value of all household assets is the highest among general caste (Rs. 5, 22, 930.60) as compared to backward caste (Rs. 4, 66, 097.25) and lowest among scheduled caste (Rs. 3, 66, 654.96) landless households. Among all the landless households together, the average value of all household assets has been worked out as Rs. 3, 98, 643.62. It is clear from the analysis of distribution pattern of household assets that as a whole buildings and others has the highest share (87.08), followed by household durables (6.48) and productive assets (6.45) in the rural areas of Punjab which reveals their lower socio-economic status in the society.

KEYWORDS

landless, assets, livestock, durables, inequality.

INTRODUCTION

The majority of the rural population in the developing countries is dependent on land as their primary source of income. The landholding pattern is a major determinant of their economic solvency, social power structure and hierarchy. Most of these countries have been experiencing an alarming growth of the landlessness among their rural population over the past few decades. The state has been eradicating poverty and unemployment by raising their standard of living through preventing the concentration of wealth and means of production and distribution in the hands of a few. Landlessness often proves to be both the cause and the manifestation of poverty, insecurity, indebtedness as well as powerlessness of the majority of rural households (Rahman and Mansprasert, 2006).

The minimum basic requirements of food, clothing and shelter are necessary for the survival of mankind. In order to meet out these minimum requirements, income has to be earned either from self-employment or through wage-employment. When an individual, even after his best possible efforts, does not get work on the existing wage rate or even at low wage rate to earn his means of subsistence, he is termed as 'unemployed' as well as 'poor'. Poverty as a concept is closely related to inequality and may also be identified with unemployment. Given the average income level, a higher level of inequality will tend to be associated with a higher level of poverty (Thakur, 1985).

In India, there are historically marginalised and disadvantaged 'social groups' such as the scheduled castes, scheduled tribes and backward castes and there are separate provisions for their welfare in the 'Constitution of India', which form the basis of targeted development policies by the state to raise the socio-economic status of these groups in absolute terms as well as relative to the rest of society. The Constitution directs the state to promote with special care for the educational and economic interests of socially and economically backward groups and protects them from social injustice and all forms of exploitation (Mutatkar, 2005).

Land is the main productive asset in the rural areas which provides direct employment to the family labour force and contributes a lion's share in the total household income. It has been established by many studies that in the rural areas in general and in the tribal areas in particular, the variations in the levels of living are high due to unequal distribution of productive assets, mainly land (Singh, 2007). It is an accepted fact that asset holding in India has always been highly concentrated. All over the country there is glaring evidence of concentration of wealth. But we have hardly any administrative records or systematically collected data to attempt regular, organized study of wealth distribution (Basu, 1976).

A large number of studies have been conducted on the distribution pattern of household assets among different social groups i. e. general caste, backward caste and scheduled caste households in the rural areas at the national level. But no such detailed and comprehensive study has been conducted in the State of Punjab. A few studies which were conducted at the State level are either related to all socio-economic groups together or cover particular section of the population. This paper deals with the distribution pattern of household assets among the general caste, backward caste and scheduled caste landless households in the rural areas of Punjab.

OBJECTIVES OF THE PRESENT STUDY

The main objective of the present study is to analyse the levels, pattern and distribution of household assets (productive assets, household durables as well as building and others) among general caste, backward caste and scheduled caste landless households in the rural areas of Punjab.

RESEARCH METHODOLOGY

In the present empirical investigation, three districts namely Bathinda, Ludhiana and Hoshiarpur districts were selected purposely. These three districts have been selected randomly on the basis of agro-climatic zones of Punjab. A sample of 588 rural households i.e. 58 general castes, 98 backward caste and 432 scheduled caste landless households were selected with the help of multi-stage random sampling. In order to work out distribution pattern of all household assets, the required information about household assets were collected with the help of a pre-tested schedule by conducting the personal interviews of informants during the year 2012-13.

RESULTS AND DISCUSSION

This section deals with per household and per capita levels, pattern and distribution of household assets among the sampled landless households in the rural areas of Punjab.

The distribution pattern of livestock among landless households in the rural Punjab has been presented in Table 1. The results reveal that as a whole, the share of buffaloes is the highest (68.85), followed by cows (26.73), young stock (3.60) and others (0.82). The percentage value of buffaloes to the total value of livestock has been worked out 75.25, 75.20 and 65.39 among general caste, backward caste and scheduled caste landless households respectively whereas, among all the households together, this value is 68.85. The percentage value of buffaloes occupies the major share to the total value of livestock among the landless households because buffaloes are the main milch animals in the rural areas of Punjab.

The percentage value of cows has been worked out 21.81, 20.97 and 29.62 among general caste, backward caste and scheduled caste landless households respectively whereas, among all the households together, per household average value of cows has been worked out 26.73. The percentage value of cows is the highest among scheduled caste as compared to general caste and the lowest among backward caste landless households.

TABLE 1: DISTRIBUTION PATTERN OF LIVESTOCK AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB (in Rs.)

S.No.	Livestock	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
1	Buffalos	12775.86 (75.52)	11708.16 (75.20)	7121.53 (65.39)	8443.71 (68.85)
2	Cows	3689.66 (21.81)	3265.31 (20.97)	3225.69 (29.62)	3278.06 (26.73)
3	Young stock	450.86 (2.67)	509.18 (3.27)	425.58 (3.91)	442.01 (3.60)
4	Others*	0.00 (0.00)	86.73 (0.56)	117.36 (0.56)	100.68 (0.82)
5	Total	16916.38 (100.00)	15569.39 (100.00)	10890.16 (100.00)	12264.46 (100.00)

Source: Field Survey, 2012-13

*Others include camel/horses/goats etc.

Note: Figures given in parentheses indicate the percentages.

The percentage value of young stock is the highest among scheduled caste as compared to backward caste and lowest among general caste households because these poor households rear young stock for earning additional income. The share of others such as camels, horses and goats is the lowest among these households because only few households have kept these animals in the rural areas of Punjab.

This analysis reveals that the total value of livestock is the highest among general caste (Rs. 16916.38) as compared to backward caste (Rs. 15569.39) and the lowest among scheduled caste (Rs. 10890.16) landless households because general caste and backward caste people have relatively better quality of livestock due to some better socio-economic conditions to some extent as compared to scheduled caste landless households in the rural areas of Punjab. Among all the landless households together, per household average value of total livestock has been worked out Rs.12264.46. It has been observed from the field survey that only few households are rearing livestock because of lack ownership of land and due to use of machinery in their engagement in agricultural activities has decreased in the rural areas.

The distribution pattern of transport vehicles among the landless households in the rural Punjab has been presented in Table 2. The percentage value of scooter/motor cycle has been worked out 60.98, 89.56 and 80.12 among the general caste, backward caste and scheduled caste landless households respectively whereas, among all the households together, this percentage value has come out to be 77.94. The percentage value of scooter/motor cycle occupies the major share in the total value of transport vehicles among the landless households because scooters/motor cycles are considered as the main transport vehicle which are helpful in moving from one place to another place for work within and outside the village in the rural areas of Punjab.

TABLE 2: DISTRIBUTION PATTERN OF TRANSPORT VEHICLES AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB (in Rs.)

S.No.	Transport Vehicles	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
1.	Scooter/Motor Cycle	9443.10 (60.98)	7663.27 (89.56)	4682.87 (80.12)	5649.15 (77.94)
2.	Car/jeep	4913.79 (31.73)	510.20 (5.96)	410.88 (7.03)	871.60 (12.03)
3.	Cycle	266.38 (1.72)	382.86 (4.47)	478.13 (8.18)	441.36 (6.09)
4.	Others*	862.07 (5.57)	0.00 (0.00)	410.88 (4.67)	285.71 (3.94)
5.	Total	15485.34 (100.00)	8556.33 (100.00)	5845.02 (100.00)	7247.82 (100.00)

Source: Field Survey, 2012-13

*Others include camel/engine carts and autos/vans etc.

Note: Figures given in parentheses indicate the percentages.

The percentage value of car/jeep has been worked out 31.73, 7.03 and 5.96 among general caste, scheduled caste and backward caste landless households respectively whereas, among all the households together, this percentage value is 12.03. The percentage value of car/jeep is the highest among general caste as compared to scheduled caste and backward caste households. The share of others such as camel/engine carts, autos/vans is the lowest among these households because only few households have these transport vehicles.

The absolute and relative value of cycle is the highest among scheduled caste as compared to backward caste and the lowest among general caste households because these poor households have cycles as the main transport vehicles due to their lower income levels. This analysis reveals that the total value of transport vehicles is the highest among general caste (Rs. 15485.34) as compared to backward caste (Rs. 8556.33) and the lowest among scheduled caste (Rs. 5845.02)

landless households because majority of them have old/ second hand type of transport vehicles in the rural areas of Punjab. Among all the landless households together, the average value of total transport vehicles has been worked out Rs.7247.82.

The distribution pattern of all household assets (productive assets, household durables as well as building and others) among landless households in the rural areas has been presented in Table 3. The absolute value of livestock, shop articles, transport vehicles and others is the highest among general caste followed by backward caste and scheduled caste landless households whereas the value of household industries equipments is the highest among backward caste followed by scheduled caste and the lowest among general caste landless households in the rural areas of Punjab.

The percentage value of productive assets shows a decreasing tendency with decrease in social status, i.e., 8.70, 6.93 and 5.88 among general caste, backward caste and scheduled caste landless households respectively whereas among all landless household together, this value comes out to be 6.45. The absolute value of productive assets is the highest among general caste (Rs. 45, 529.31) as compared to backward caste (Rs. 32, 260.41) and lowest among scheduled caste (Rs. 21, 549.09) landless households whereas among all the landless households together, this value is Rs. 25, 699.71. The share of these productive assets in the total household assets is quite low for all the categories of landless households as a whole, which is responsible for low levels of living.

TABLE 3: DISTRIBUTION PATTERN OF ALL HOUSEHOLD ASSETS AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB (in Rs.)

S. No.	Household Assets	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
1.	**Productive Assets**				
a.	Livestock	16916.38 (3.23)	15569.39 (3.34)	10890.16 (2.97)	12264.46 (3.08)
b.	Transport vehicles	15485.34 (2.96)	8556.33 (1.84)	5792.94 (1.58)	7209.56 (1.81)
c.	Shop articles	12086.21 (2.31)	5989.80 (1.29)	3777.78 (1.03)	4965.99 (1.25)
d.	Household industries	446.38 (0.09)	1586.73 (0.34)	681.83 (0.19)	809.42 (0.20)
e.	Others*	595.00 (0.11)	558.16 (0.12)	406.38 (0.11)	450.29 (0.11)
f.	Sub-total (a to e)	45529.31 (8.70)	32260.41 (6.93)	21549.09 (5.88)	25699.71 (6.45)
2.	**Household Durables**				
a.	Furnishing articles	9859.31 (1.89)	7959.59 (1.71)	6620.53 (1.81)	7163.18 (1.80)
b.	Electrical appliances	10045.00 (1.92)	9311.33 (2.00)	8023.61 (2.19)	8437.62 (2.12)
c.	Utensils	3858.62 (0.74)	3623.47 (0.78)	3303.94 (0.90)	3411.90 (0.86)
d.	Bedding and clothing	5284.48 (1.01)	5066.33 (1.09)	4917.48 (1.34)	4978.49 (1.25)
e.	Other Assets**	2662.07 (0.51)	2415.31 (0.52)	1536.55 (0.42)	1794.03 (0.45)
f.	Sub-total (a to e)	31709.48 (6.07)	28376.03 (6.10)	24402.11 (6.66)	25785.22 (6.47)
3.	**Buildings and Others*** **	445691.81 (85.23)	405460.81 (87.00)	320703.77 (87.47)	347158.70 (87.08)
4.	**Grand total (1+2+3)**	**522930.60 (100.00)**	**466097.25 (100.00)**	**366654.96 (100.00)**	**398643.62 (100.00)**

Source: Field Survey, 2012-13

***Others include agricultural implements like sickles, axes, Khurpies, spades and fodder cutter etc.

**Others include mobiles and gas cylinders etc.

***Others include cowshed, farm building and stores etc.

Note: Figures given in parentheses indicate the percentages.

The household durables include furnishing articles, electrical appliances, utensils, beddings and clothing and other assets such as mobiles and gas/ cylinder, etc. The absolute value of all household durables is the highest among general caste (Rs. 31, 709.48) as compared to backward caste (Rs. 28, 376.03) and lowest among scheduled caste (Rs. 24, 402.11) landless households and among all the landless households together, the average value of household durables has been worked out Rs. 25, 785.22. It has been observed from the field study that general caste households have better quality and larger number of household durable items due to higher level of income as compared to backward caste and scheduled caste landless households those have inferior quality as well as lesser number of durable items. The percentage value of household durables has been worked out 6.07, 6.10 and 6.66 among general caste, backward caste and scheduled caste households respectively whereas, among all the households together, this value has come out to be 6.47. This table further highlighted that scheduled caste households possess the lowest share of other durables such as mobile and gas cylinder due to their lower levels of income as compared to the backward caste and general caste landless households.

The results of the study further highlight that the percentage value of buildings and others occupies the major share in the total value of household assets among the landless households because it is the most valuable asset. The percentage value of buildings and others has been worked out to be 85.23, 87.00 and 87.47 among general caste, backward caste and scheduled caste landless households respectively whereas, among all the households together, this value has been worked out 87.08.

The analysis of ownership of assets reveals that the total value of all household assets is the highest among general caste (Rs. 5, 22, 930.60) as compared to backward caste (Rs. 4, 66, 097.25) and lowest among scheduled caste (Rs. 3, 66, 654.96) landless households. As a symbol of better socio-economic status in the society, the value of all household assets shows an increasing tendency with increase in social status of landless households in the rural areas of Punjab. Among all the landless households together, the average value of all household assets has been worked out as Rs. 3, 98, 643.62. It is clear from the analysis of distribution pattern of household assets that as a whole buildings and others has the highest share (87.08), followed by household durables (6.48) and productive assets (6.45) in the rural areas of Punjab which reveals their lower socio-economic status in the society.

The data pertaining to the distribution of per capita value of assets of landless households in rural Punjab is given in Table 4. The table shows that as a whole, the average per capita all household assets is Rs. 84, 530.27 in which productive assets, household durables and building and others constitute Rs. 5, 449.49, Rs. 5, 467.62 and Rs. 73, 613.17 respectively. However, there are considerable variations in the per capita value of assets among different categories of the landless households. The per capita value of productive assets is worked out the highest (Rs. 9, 853.36) among general caste, followed by backward caste (Rs. 6, 600.25) and scheduled caste (Rs. 4, 594.87) households.

TABLE 4: PER CAPITA VALUE OF ALL HOUSEHOLD ASSETS AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB (in Rs.)

S. No.	Household Assets	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
1.	**Productive Assets**				
a.	Livestock	3661.01	3189.39	2322.09	2600.61
b.	Transport vehicles	3351.31	1750.56	1235.22	1528.75
c.	Shop articles	2615.67	1225.47	805.53	1053.01
d.	Household industries	96.60	324.63	145.38	171.63
e.	Others*	128.77	114.20	86.65	95.48
f.	Sub-total (a to e)	9853.36	6600.25	4594.87	5449.49
2.	**Household Durables**				
a.	Furnishing articles	2133.73	1628.48	1411.68	1518.91
b.	Electrical appliances	2173.92	1905.03	1710.86	1789.15
c.	Utensils	835.07	741.34	704.49	723.48
d.	Bedding and clothing	1143.66	1036.53	1048.54	1055.66
e.	Other Assets**	576.11	494.15	327.64	380.41
f.	Sub-total (a to e)	6862.49	5805.53	5203.21	5467.62
3.	**Buildings and Others*** **	96455.69	82954.41	68383.03	73613.17
4.	**Grand total (1+2+3)**	**113171.54**	**95360.19**	**78181.12**	**84530.27**

Source: Field Survey, 2012-13

*Others include agricultural implements like sickles, axes, Khurpies, spades and fodder cutter etc.

**Others include mobiles and gas cylinders etc.

***Others include cowshed, farm building and stores etc.

The per capita value of household durables has been the highest (Rs. 6, 862.49) among general caste, as compared to backward caste (Rs. 5, 805.53) and scheduled caste (Rs. 5, 203.21) households. The per capita value of building and others has been worked out the highest (Rs. 96, 455.69) among general caste, followed by backward caste (Rs. 82, 954.41) and scheduled caste (Rs. 68, 383.03) households.

The table further reveals that per capita value of all the assets is the highest (Rs. 1, 13, 171.54) among general caste, as compared to backward caste (Rs. 95, 360.19) and scheduled caste (Rs. 78, 181.12) households due to that reason general caste landless households have maintained relatively better standard of living than other social groups in the rural areas of Punjab.

The data showing the value of assets according to the different ranges among the landless households in the rural areas of Punjab is presented in Table 5. The table clearly depicts that the inequalities in the ownership of assets among landless households in the rural Punjab. The table shows that 57.31 per cent of the total households are concentrated in the assets group of up to 4 lakh, whereas the concentration of assets in these houses is 39.28 per cent. The distribution of assets in various sampled households across different social groups reveals that 3.06 and 12.96 per cent among backward caste and scheduled caste households are in the assets range of up to 2 lakh, whereas 8.62, 4.08 and 0.46 per cent households are in the assets range of up to 10 and above among general caste, backward caste and scheduled caste households respectively. This analysis points out that a majority of the households have assets in the range of 2 lakh to 4 lakh, i.e., 25.86, 46.94 and 50.23 per cent among general caste, backward caste and scheduled caste households respectively whereas they enjoy only 16.77, 30.45 and 40.60 per cent of the total household assets respectively.

TABLE 5: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO DIFFERENT ASSETS RANGES (Per cent)

Assets Ranges (in Rs.)	General Caste Landless Households		Backward Caste Landless Households		Scheduled Caste Landless Households		All Sampled Landless Households	
	HH	Assets	HH	Assets	HH	Assets	HH	Assets
Up to 2 lakh	0.00	0.00	3.06	0.96	12.96	5.26	10.03	3.74
2 lakh -4 lakh	25.86	16.77	46.94	30.45	50.23	40.60	47.28	35.54
4 lakh -6 lakh	56.90	51.87	26.53	26.96	30.09	40.31	32.14	39.20
6 lakh -8 lakh	3.45	4.51	10.20	15.05	4.63	8.59	5.44	9.32
8 lakh -10 lakh	5.17	8.70	9.18	17.29	1.62	3.98	3.23	7.18
10 lakh &above	8.62	18.15	4.08	9.29	0.46	1.27	1.87	5.02
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Field Survey, 2012-13

The data pertaining to the distribution of per capita assets according to different ranges of per capita value of assets among the landless households has been presented in Table 6. The table reveals that 2.16 per cent of the total persons have assets range less than Rs. 30000 who own only 0.48 per cent of total assets. The percentage of persons in this range is the highest (2.67) among scheduled caste, followed by backward caste (1.25). This analysis further points out that majority, i.e., 83.15 per cent of persons of the landless households in Punjab falls in the per capita range of assets of only Rs. 30000-120000.

TABLE 6: DISTRIBUTION OF PERSONS ACCORDING TO DIFFERENT ASSETS RANGES (Per cent)

Assets (in Rs.)	General Caste Landless Households		Backward Caste Landless Households		Scheduled Caste Landless Households		All Sampled Landless Households	
	Persons	Assets	Persons	Assets	Persons	Assets	Persons	Assets
Up to 30	0.00	0.00	1.25	0.22	2.67	0.65	2.16	0.48
30-60	6.34	2.32	24.43	11.72	32.72	16.53	28.74	13.73
60-90	33.21	16.88	34.66	23.89	35.64	31.50	35.23	28.13
90-120	33.58	27.69	15.66	19.11	18.11	24.31	19.18	23.80
120-150	7.46	9.61	6.05	9.42	7.11	13.90	6.96	12.49
150 & above	19.40	43.50	17.95	35.64	3.75	13.12	7.72	21.36
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Field Survey, 2012-13

The percentage of persons in this range is the highest (86.47) among scheduled caste, followed by backward caste (74.75) and general caste (73.13) households. It is clear from the table that 7.72 per cent of persons of the landless households fall in the range of assets Rs. 150 000 and above and enjoys 21.36 per cent of the total assets whereas in this range, the percentage of persons is the highest (19.40) among general caste as compared to backward caste (17.95) and scheduled caste (3.75) households. Thus, the table illustrates that there is unequal distribution of assets across different social groups of landless households in rural Punjab which points towards the uneven access to various necessities of life.

The data pertaining to the distribution of household assets among landless households in rural Punjab is presented in Table 7. The table reveals that the bottom 10 per cent of the landless households in Punjab have only 3.74 per cent of the total assets whereas the top 10 per cent share in the total assets is 20.74 per cent which reveals a glaring disparity in the distribution of assets. This is 5.55 times more the assets of the bottom 10 per cent of landless households.

TABLE 7: DISTRIBUTION OF HOUSEHOLD ASSETS AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB

Cumulative Percentage of Persons	Cumulative Percentage of Per Household Assets of Landless Households			
	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
10	6.16	4.35	3.71	3.74
20	12.99	10.13	9.37	9.40
30	19.42	15.95	16.12	15.85
40	27.73	23.26	23.66	23.51
50	36.69	31.41	32.45	32.25
60	45.93	40.52	42.62	42.04
70	55.68	51.01	53.45	52.94
80	64.79	62.65	66.40	65.08
90	78.77	78.87	80.98	79.26
100	100.00	100.00	100.00	100.00
Gini-coeffient	**0.2037**	**0.2637**	**0.2425**	**0.2519**

Source: Field Survey, 2012-13

Almost a similar position lies among the different social groups in rural Punjab. The bottom 10 per cent among general caste, backward caste and scheduled caste landless households claim 6.16, 4.35 and 3.71 per cent respectively whereas the top 10 per cent among general caste, backward caste and scheduled caste landless households claim 21.23, 21.13 and 19.02 per cent respectively. This analysis shows that the concentration of household assets is greater among backward caste in comparison to scheduled caste and general caste landless households. The value of Gini coefficients among all the sampled households together is 0.2519 which indicates a skewed distribution of household assets. The value of Gini coefficient is the highest (0.2637) among backward caste, followed by scheduled caste (0.2425) and the lowest (0.2425) among general caste landless households in rural Punjab. This shows glaring inequalities in the ownership of household assets among the landless households in Punjab.

The distribution of per capita household assets among landless households in rural Punjab is presented in Table 8. The table reveals that the bottom 10 per cent of the landless households in Punjab have only 4.14 per cent of the total per capita assets whereas the top 10 per cent share 21.64 per cent in the total per capita assets is per cent which reveals a glaring disparity in the distribution of assets. This is 5.23 times more the per capita assets of the bottom 10 per cent of landless households.

TABLE 8: DISTRIBUTION OF PER CAPITA ASSETS AMONG LANDLESS HOUSEHOLDS IN RURAL PUNJAB

Cumulative Percentage of Persons	Cumulative Percentage of Per Capita Assets of Landless Households			
	General Caste Landless Households	Backward Caste Landless Households	Scheduled Caste Landless Households	All Sampled Landless Households
10	4.96	4.54	4.12	4.14
20	11.02	10.13	9.96	9.86
30	16.74	15.89	16.85	16.30
40	24.40	23.33	24.40	23.77
50	32.68	31.48	32.94	32.17
60	41.96	40.65	42.41	41.50
70	52.38	51.39	52.98	52.00
80	63.27	62.92	65.32	63.91
90	77.71	79.48	79.61	78.36
100	100.00	100.00	100.00	100.00
Gini-coeffient	**0.2498**	**0.2604**	**0.2428**	**0.2560**

Source: Field Survey, 2012-13

Almost a similar position lies among the different social groups in rural Punjab. The bottom 10 per cent among general caste, backward caste and scheduled caste landless households claim 4.96, 4.54 and 4.12 per cent respectively whereas the top 10 per cent among general caste, backward caste and scheduled caste landless households claim 22.29, 20.52 and 20.39 per cent respectively. This analysis shows that the concentration of per capita household assets is greater among backward caste in comparison to general caste and scheduled caste landless households. The value of Gini coefficients among all the sampled households together is 0.2560 which indicates a skewed distribution of per capita household assets. The value of Gini coefficient is the highest (0.2604) among backward caste, followed by general caste (0.2498) and the lowest (0.2428) among scheduled caste landless households in rural Punjab. This shows glaring inequalities in the ownership of per capita household assets among the landless households in Punjab.

CONCLUDING REMARKS

In nutshell, the distribution pattern of household assets among the landless households highlighted that the general caste landless households have a better position in comparison to backward caste and scheduled caste landless households in terms of ownership of household assets in rural areas of Punjab. The distribution pattern of livestock assets among the landless households reveals that the share of buffaloes and cows is more among the total livestock assets because buffaloes and cows are the main livestock assets which provide nutritional security as well as these poor households sell milk and its products for supplement their household income. The distribution pattern of transport vehicle shows that the percentage value of scooter/motor cycle occupies the major share in the total value of transport vehicles among the landless households because scooters/motor cycles are considered as the main transport vehicle which are helpful in moving from one place to another place for work within and outside the village in the rural areas of Punjab. The results of the study highlighted that the value of buildings and others occupies the major share in the total value of household assets among the landless households because it is the most valuable asset. The concentration of household assets is greater among backward caste in comparison to scheduled caste and general caste landless households. Therefore, in order to raise their socio-economic status, Govt. should provide productive assets like land and livestock to these poor households for generating gainful employment opportunities as well as for raising their household income.

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A COMPARATIVE STUDY ON ICICI PRUDENTIAL LIFE INSURANCE AND SBI LIFE INSURANCE COMPANIES IN CHICKBALLAPUR DISTRICT

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ABSTRACT

Insurance industry is one of the fastest growing industries in India and, has transformed from urban market to rural market in the world. Insurance companies in India had better opportunities in rural market. With the expected growth in volumes, India has the potential to improve its competitiveness in Insurance industry. Since deregulation, India has become an emerging site of insurance for rural market. The limited size of the urban market has focused insurance companies to look for rural markets. Before buying the life insurance policy it is important to know the benefits of the insurance policy and its limitations which are hardly informed by the agent selling their products. Hence there is a need to understand the policy which fulfils needs and wants. For this reason, the current study evaluates and compares the various policies offered by SBI Life Insurance and ICICI Prudential Life insurance companies. This study provides a basic comparison between the various policies which will help an individual to understand the different policies and help him in selecting the suitable one which will fulfil his needs and wants.

KEYWORDS

insurance, life insurance policies, SBI life insurance, ICICI prudential life insurance.

1. INTRODUCTION

Insurance is a means of protection from financial loss. It is a form of risk management primarily used to hedge against the risk of a continent, uncertain loss. An entity which provides insurance is known as an insurer, insurance company, or insurance carrier. A person or entity who buys insurance is known as an insured or policyholder. The insurance transaction involves the insured assuming a guaranteed and known relatively small loss in the form of payment to the insurer in exchange for the insurer's promise to compensate the insured in the event of a covered loss. The loss may or may not be financial, but it must be reducible to financial terms, and must involve something in which the insured has an insurable interest established by ownership, possession, or pre-existing relationship.

Life insurance is different from other forms of investments. In any investment, the amount that he gets on the termination of the contract is accumulations plus interest. In the case of insurance, the fund available is not the total of the savings already made (premiums paid), but the amount one wished to have at the end of the savings period. By paying, a single premium, a fixed amount is assured in the event of unfortunate death of the life assured.

Insurance ensures tax benefits both income tax and capital gains. Insurance ensures tax exemption at the time of remittance of premium, receiving of survival benefits and at the time of final claim-maturity or death.

Insurance bonds can be mortgaged or pledged against a loan. It ensures family protection, safe guard against unpredictable risk and help people to live financially secure.

2. REVIEW ON LITERATURE

Divakara P (2015), Number of polices has subsequently increased year after year but the performance of LIC has deteriorated and those of private players have been improved tremendously. With every successive year, private players are gaining the trust of the public and have quite successful in snatching the business from LIC. **Rajasekar D and T.H. Kumari (2014),** the level of penetration, particularly in life insurance, tends to rise as income levels increase. The market share of the entire private players has sharply risen with the entry of private players in life insurance market. **Tripathi. S (2009),** in his dissertation report mentioned that Private companies are giving direct competition to public sector, He concluded that LIC is a most popular and leading brand but with aggressive marketing approach; private companies are giving direct competition to LIC. **U. Jawaharlal (2006)** in his article describes the post liberalization scenario of the insurance industry in rural areas. Even though several insurers accomplished the target assigned at the time of liberalization, the goals behind assigning the target like spreading the message of insurance in rural areas has not accomplished. He points out that there is a need for identification of the products for the rural people. **S. Krishnamurthy (2005)** points out that the life insurance industry has shown extremely satisfactory results in terms of premium income and new policies sold but a huge potential still remains unexploited. Experience suggests that consumers still favour insurance as a saving tool. There is a need to change the perception of Indian consumers towards insurance and it is the responsibility of the distribution channel to advise and educate consumers.

3. STATEMENT OF PROBLEM

This study helps us to know the benefits of life Insurance Policy. We made an attempt to study on the number of policy holder who had taken life Insurance Policy from the selected companies' i.e. ICICI Prudential Life Insurance and SBI Life Insurance Company, claim settlement ratio and the awareness about the policies of companies.

4. OBJECTIVES OF THE STUDY

1. To know the public awareness of both ICICI Prudential and SBI Life insurance companies.
2. To analyse the number of policy holders of ICICI Prudential and SBI Life insurance companies.
3. To know the ratio of claims settlement by ICICI Prudential and SBI Life insurance companies.

5. RESEARCH METHODOLOGY

The methodology followed for conducting the study included the specification of research design, sample design, questionnaire design, data collection & statistical tools used for analysing the collected data.

6. RESEARCH DESIGN

The data have been analysed by using both Descriptive and Analytical study. The reason for using descriptive is to summarize the awareness about the Company towards the public. This study was conducted by collecting both the Primary Data and Secondary Data.

7. SOURCES OF DATA

To accomplish the above stated objectives of the study primary as well as secondary data was taken in to consideration. The data was collected as follows:
Primary data: It has been collected directly from the policy holder of both the companies by administering questionnaires to them and by interviewing them.
Secondary data: It has been collected from the annual report of IRDA books, journals and also the website of Life insurance company i.e. ICICI Life Insurance and SBI Life Insurance Company.

8. SAMPLE SIZE

100

9. PRESENTATION TOOLS

Graphs, charts, tables are used to represent the data of selected companies i.e. ICICI Life Insurance and SBI Life Insurance Company

10. LIMITATION OF THE STUDY

- The Sample Size for this study is limited to 100 respondents.
- Time constraint.
- The study was focused only in Chickballapur district.

11. DATA ANALYSIS & INTERPRETATION:

To study the Public awareness of SBI Life Insurance and ICICI Prudential Life Insurance Companies

TABLE NO. 1

Company name	Public awareness (in %)
SBI LIFE INSURANCE	58
ICICI PRUDENTIAL LIFE INSURANCE	42

Data interpretation: This table represents the public awareness of SBI Life Insurance and ICICI Prudential Life Insurance companies which interprets that SBI Life insurance (58%) has more awareness compare to ICICI Prudential Life Insurance (42%) in rural areas.

To analyse the number of policy holders of SBI and ICICI Prudential Life Insurance companies

TABLE NO. 2

Company	No of policy holders (in %)
SBI LIFE INSURANCE	64
ICICI PRUDENTIAL LIFE INSURANCE	36

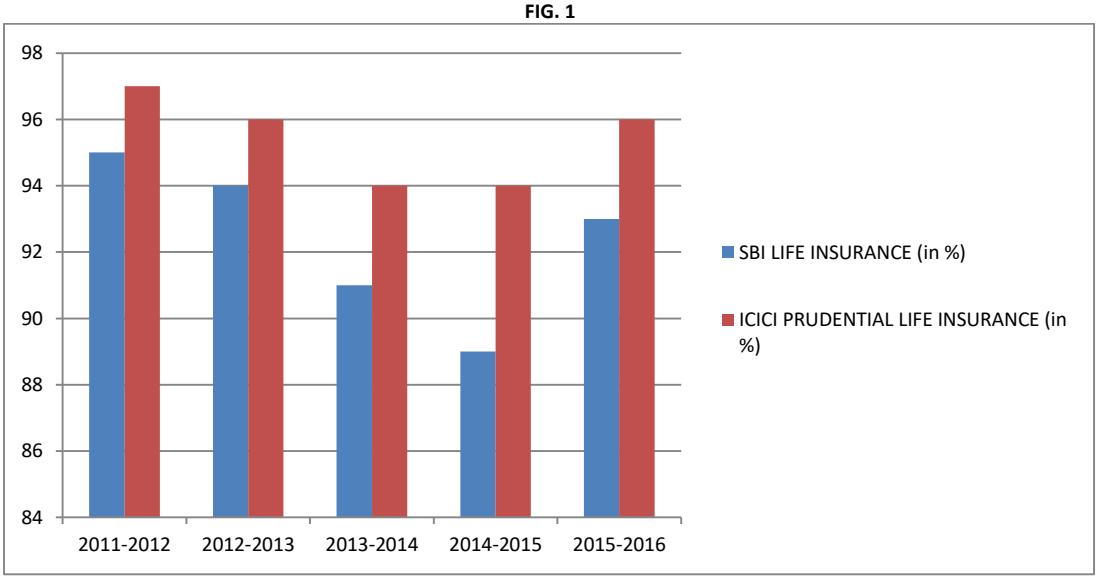
Data interpretation: This table represents the number of policy holders in SBI Life Insurance and ICICI Prudential Life Insurance companies which interprets that SBI Life insurance (64%) has more number of policy holders compared to ICICI Prudential Life Insurance (36%).

To study the ratio, claim settlements by SBI and ICICI Life Insurance companies.

TABLE NO. 3

Year	SBI LIFE INSURANCE (in %)	ICICI PRUDENTIAL LIFE INSURANCE (in %)
2011-2012	95	97
2012-2013	94	96
2013-2014	91	94
2014-2015	89	94
2015-2016	93	96

FIG. 1



Data interpretation: This table represents the claim settlement ratio of both the companies in SBI Life Insurance and ICICI Prudential Life Insurance companies. Where in case of both the companies the claim settlement ratio keeps fluctuating from the period 2011-2016.

FINDINGS

- In this study 58% of the public are aware about the SBI Life Insurance and 42% of the public are aware about ICICI Prudential Life Insurance Company.
- As per our sample size 64% of the policy holders have taken from the SBI Life Insurance and 36% of the policy holders are taken from ICICI Prudential Life Insurance Company.
- In this study claim settlement ratio keeps on fluctuating of both the Companies i.e. SBI Life Insurance and ICICI Prudential Life Insurance Company.

SUGGESTIONS

- Both the insurance companies should concentrate more on promotional mix elements to create more awareness among the customers about their insurance policies and brand name
- ICICI Prudential Life insurance company should provide incentives for agents and attractive bonus on policies.
- SBI Life insurance company should be prompt for settling their claims.

CONCLUSION

Life insurance industry is an emerging service sector in this competitive market, which requires new strategies in order to survive successfully. There is huge potential to tap the rural insurance and for this, industry needs to frame such plans and strategies that will help to capture the rural market. Life insurance has today become a core of any market economy since it offers plenty of scope for accumulating large sums of money for long periods of time. Companies instead of focusing only on improving the variety of products needs to focus on targeting new segments and implement innovative strategies in order to achieve sustained growth and ensure profitability of business as well as growth of insurance coverage. The life insurers should conduct more extensive market research before introducing insurance products.

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PRICING DYNAMICS OF GOLD IN INDIAN COMMODITY MARKET

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ABSTRACT

The wider classification of the Indian Future Market can be made in terms of the bond market, equity market and commodity market. the commodity markets of India include agro commodities (wheat, rice, onion, potato, etc.), non- agro commodities (precious metals, base or industrial metals, energy and weather). The future trading of commodities resulted in the batter price discovery mechanism experienced ever before, the price discovery results from the demand/ supply mechanism in the online integrated market place. Traders and investors reaction of various political, economic events reflects in the market immediately. The price movements provided the insight of research for the trader, investor and researcher. The eagerness to predict the price and movement of an asset provided the foundation of technical analysis. The technical analysis is done through various statistical tools and techniques. The study contains the technical analysis of commodity prices traded in the Indian commodity exchanges. Broadly the commodities traded in the Multi Commodity exchange (MCX) will be covered. Commodity scripts as metals and energy scripts shows high volatility and distinct trend which is needed to be analyzed using technical analysis tools. The relationship among these commodities in international traded market and domestic markets also provides the insight of research which is to be analyzed using the technical tools provided in the econometrics. It will be figured out weather these tools are providing the estimation for price change or not. Basically gold is taken for the study. The tools in technical analysis such as Moving averages, RSI, STOCH, etc. have been taken for the study. Data from 2004-2014 are available both in Dollars and Rupees collected from COMEX (New York) and MCX (Mumbai). The data is widely available on web sites, magazines and e-publications by the exchanges. This study will reveal the relevance of technical analysis tools for the analysis of future price movements and reveal the various reasons which move the prices in the particular trend. This analysis benefits society in a way that the individual investors can mobilize their savings in the commodity as well as capital markets as this analysis provides the best tools for price prediction through which the investors can manage their risk efficiently. Price analysis tools can help investors to deploy more funds in the capital market. Weather these tools and techniques provide help for the investors in making investment decisions?

KEYWORDS

commodity market, commodity derivatives market, commodity futures, commodity exchanges, gold futures, trend, moving averages.

INTRODUCTION

Bombay cotton and trade association is the pioneer of commodity future trading in India. It's history is traced backed in 1875 which is 140 years old now. It was basically started to attract the traders of future contract in cotton. Future market for bullions was emerged in Mumbai in 1920 and it gradually became the centre for bullion traders across the country. With the further developments in the Indian future commodity market the government felt the need of a law, consequent to which Forward Contract (Regulation) Act 1952 was passed. Forward Contract (Regulation) Act banned the future commodity trading from 1953 to control the speculation in essential commodities and bullions. After the recommendations of many committees like Shroff Committee, Dantwalla Committe, Khusro Committee and Kabra Committee commodity future trading (from 1953-1990). In 2002 government allowed screen based future trading in commodities including bullion. While India was gradually becoming the largest consumer of gold in the world, a position it still enjoys, futures markets in bullion were inevitable and began to emerge in Mumbai in 1920. The Indian commodity market can be broadly classified into commodity future market and commodity spot market. According to FMC the Indian spot market is the market where the claims are to be settled within 10 days of such trade, after 10 days either it will be considered as the future contract or automatically get settled by the exchange. The commodity market in India comprises of all markets that we come across in our daily lives. Such markets are social institutions that facilitate exchange of goods for money. The cost of goods is estimated in terms of domestic currency. Indian Commodity Market can be subdivided into the following two categories. Considering the present growth rate, the total valuation of the Indian Retail Market Is estimated across Rs.10,000 billion in the year 2010. Demand for commodities is likely to become four times by 2015 than what it was in 2010. In today's world, online Commodity markets/exchanges are the artificial person in the form of company or association of person which provides the facility to buy/sell the commodity online through d-mat account. The organised commodity markets growing across the world which clearly forms the proper supply chain of essential commodities (agricultural, non-agricultural, industrial metals, oils, etc) in the country and across the globe The basic purpose of commodity exchange is to find the prospective buyer/seller for every commodity in a centralized marketplace. With the proper supply chain of the commodity, the price discovery process becomes easy. The easy access of the commodity market provides the opportunity to the investors and businessman to buy/sell the commodity within short span of time, which increases efficiency of investor to invest in the vast variety of commodities and it also increases the efficiency of businessmen to purchase the raw material The easy access of commodity market is giving more and more birth to the hedgers, speculators and arbitragers. Hedgers, speculators and arbitragers are the group of peoples who enters in the market with the primary motive to earn profit. With the entry of this group of peoples the price discovery process becomes complex, biased and volatile. In India, the first two commodity exchanges were MCX (multi commodity exchange ltd) NCDEX (national commodity and derivative exchange ltd) which allowed large number of agro, non-agro commodities with some metals (ferrous and non-ferrous). The introduction of these two exchanges provided the opportunity for the peoples to trade in bundle of commodities on single screen. It also provided opportunity to the farmers to sell their agricultural produce directly to the wholesalers, retailers and consumers on the future date on a specified agreement. Government of India introduced e-choupal scheme to initiate online commodity trading among farmers. Farmers are getting better price by selling their produce online. With the introduction of commodity exchanges in India, massive speculation is taking place in commodities, which is pushing the price of commodities on the bullish side. There are several techniques which provide the tools for the calculation of volatility and future price movement Value at risk provides the estimates regarding the maximum expected loss under

certain confidence level. There are three methods under value at risk analysis which provides the estimation of future loss. The concept of annualized actual volatility provides the idea about the volatility among the price of underlying asset. Pivot point analysis provides the prediction about the direction of prices in which the prices can move. It also gives certain support and resistant levels which bounds the prices of the underlying asset in the range. Support means downward support in a price of an asset and resistance means the resistance for the upward movement of the prices of an asset. Moving averages are also the most reliable tools for the prediction of the trend; trend analysis is done by using simple and exponential moving average. Stochastic analysis is based on the probability theory which provides the indicator to buy or sell the commodity. A commodity is an asset which can be added in the portfolio for the batter performance with the limited degree of risk associated with it. A commodity exchange is an association or a company or any other body corporate organizing futures trading in commodities for which license has been granted by regulating authority.

PRESENT COMMODITY MARKET IN INDIA

Commodity markets are centre place for the speculators; speculators basically move the market when there is low degree of volatility in it, the price discovery mechanism. It brings a price transparency and risk management in the vital market. By Exchange rules and by law, no one can bid under a higher bid, and no one can offer to sell higher than someone else's lower offer. That keeps the market as efficient as possible, and keeps the traders on their toes to make sure no one gets the purchase or sale before they do. Since 2002, the commodities future market in India has experienced an unexpected boom in terms of modern exchanges, number of commodities allowed for derivatives trading as well as the value of futures trading in commodities, which crossed $ 1 trillion mark in 2006.In India there are 25 recognized future exchanges, of which there are four national level multi-commodity exchanges. After a gap of almost three decades, Government of India has allowed forward transactions in commodities through Online Commodity Exchanges, a modification of traditional business known as Adhat and Vayda Vyapar to facilitate better risk coverage and delivery of commodities. The four exchanges are given below:

1. National Commodity & Derivatives Exchange Limit (NCDEX) Mumbai,
2. Multi Commodity Exchange of India Limited (MCX) Mumbai and
3. National Multi- Commodity Exchange of India Limited (NMCEIL) Ahmedabad.
4. Indian Commodity Exchange Limited (ICEX), Gurgaon.

OBJECTIVES OF THE STUDY

To know the relevance of the tools in analysing the market in respect of commodity market analysis, to predict the future trend of the commodity market in respect of gold, to predict the reversal of trend in respect of gold, to know the factors influencing the gold prices, to find the appropriate tool for the future price analysis, to find the impact of change in dollar price on various internationally traded commodities, to understand the role of various group of nations in commodity price movement.

REVIEW OF THE LITERATURE

Rajnarayan Gupta (2011) in his study titled "Commodity Derivative Market in India: The Past, Present and Future" examined the commodity derivative market was reintroduced in India in early 2000s. Since its resumption, however, the market has been growing at a very high pace. The growth is evident in the spread of market network as well as in volume of trade. Earlier there were only regional exchanges in the country. Now there are national level bourses, namely, MCX, NCDEX and NMCE which dominate the market.

Sanjay Sehgal, Namita Rajput, and **Rajeev Kumar Dua (2012)** in his research paper "Price Discovery in Indian Agricultural Commodity Market" studied the price discovery relationship for Agricultural Commodities in Indian markets. They found an efficient price discovery process in place. They recommended the strengthening of the market regulatory framework. An emphasis on the autonomy of Forwards Market Commission (FMC) was made. Their study also revealed the need for well-developed warehousing and market linkages.

Kushankur Dey, and **Debasish Maitra (2012**), in his research paper "Price Discovery in Indian Commodity Futures Market: An Empirical Exercise", conducted studies on pepper to examine the price discovery process by applying Granger causality, Co-integration, Error Correction model. There was a unidirectional causality from Futures to Spot prices in the pepper Futures market.

Brajesh and **Pandy (2013)** in his study research paper "Market Efficiency in Indian Commodity Futures Markets" investigated the short run and long run market efficiency of Indian commodity futures market. They had tested four agricultural and even non-agricultural commodities for market efficiency and unbiasedness. The result confirmed the long run efficiency of commodity futures prices and inefficiency of futures prices in short run.

Mrs. Isha Chhajed and **Mr. Sameer Mehta (2013)** in his research paper "Market Behavior and Price Discovery in Indian Agriculture Commodity Market "examined the price discovery mechanism is quite effective for most commodities, but may not be very effective for some commodities. They found several natural processes such as seasonal cycles based on harvests, monsoons, depressions, and other weather events would also be expected to have an impact on price discovery in commodity markets; this is another area that needs to be studied.

Neeti Agarwal and **Gurbandini Kaur (2013)** in his study titled "Agricultural Commodity Future Trading and its Implications – An Overview" the discussion based on various parameters of the commodity market as a whole show that the researchers have a mixed view. There is no defined viewpoint on any of the variables selected. This clearly shows the uncertainty prevailing in the market which forms the basis of the research. This conceptual study therefore provides a scope for research in the developing and emerging markets.

Shamim Ahmad and **Mohammed Jamshed (2014)** in his study titled "Nurturing an Agriculture Friendly Commodity Derivatives Marketing in India" examined the analysis and discussion leads to the creation of a new 'institutional design' exclusively for governing, monitoring and regulating the spot, futures and derivatives markets in agricultural commodities. They found the Government of India should empower spot exchanges to function on pan-India basis through integrated single window. It need not be limited to State APMC Laws.

Nilanjana Kumari (2014) in his research paper "India's Foreign Trade with China with Special Reference to Agricultural Commodities" investigated the Sino-Indian bilateral trade relationship took an impressive turn during the last decade as China gradually ascended to become the largest trading partner of India since 2008. They found it can be observed from the trade composition that our commodity basket mainly consists of mineral based products, along with the semi-manufactured products.

RESEARCH METHODOLOGY

PERIOD OF THE STUDY

Period of the study will be from 1/11/2014 to 30/04/2015.

SOURCES OF DATA

The secondary data will be used in the study and data will be collected from the web resources of various international organisations Such as UNTCAD, World Gold Council, LME London, COMEX, NYMEX, London bullion association, etc. The data is also collected from some national Institutional Web resources such as Forward Market Commission (FMC), Multi Commodity Exchange (MCX), National Commodity and Derivatives Exchange (NCDEX).

SCOPE OF THE STUDY

The scope of the study will cover the prices of the Gold traded in Indian commodity exchange. The price movements and data from Multi Commodity Exchange of India Limited are taken for the study; the main commodity that is covered in the study is Gold. The impact of exchange rate fluctuations is also covered and the fluctuation in exchange rate in respect of gold is also studied to gain the insight of relationship among U.S. Dollar and Gold. Multi commodity exchange covers 82 % of commodity market in reference to gold, silver and crude oil. The data is to be taken from other exchanges and various government agencies to get the data about total volume of trade in India. The actual price variation and its study will be taken from MCX and COMEX. COMEX, an American exchange shows the

commodity price movement in dollar and MCX market shows prices in its converted form, i.e., in rupees. The global demand/supply and global fundamental analysis of commodities are also been included, as it forms the base for the price fluctuation in Indian economy.

'MOVING AVERAGE - MA'

Moving averages are used as a tool for the analysis of price trend as it smooth out the price movements and clears the movement of price beyond the trend line which is also called smoothing of "noise" from the data. Moving average always involves the past prices for the calculation and it is called the trend following indicator. Basically there are two types of moving averages which are used commonly i.e. simple moving average which is the simple average of a asset over a defined number of time periods, and the exponential moving average (EMA), which gives bigger weight to more recent prices. The basic use of moving averages is to determine the trend line and support and resistance level. While MAs are useful enough on their own, they also form the basis for other indicators such as the Moving Average Convergence Divergence (MACD).

SIMPLE MOVING AVERAGE

Daily Closing Prices: 11,12,13,14,15,16,17
First day of 5-day SMA: (11 + 12 + 13 + 14 + 15) / 5 = 13
Second day of 5-day SMA: (12 + 13 + 14 + 15 + 16) / 5 = 14
Third day of 5-day SMA: (13 + 14 + 15 + 16 + 17) / 5 = 15

EXPONENTIAL MOVING AVERAGE

SMA: 10 period sum / 10
Multiplier: [2 / (Time periods + 1)] = (2 / (10 + 1)) = 0.1818 (18.18%)
EMA: {Close – EMA (previous day)} x multiplier + EMA (previous day).
Source: stockcharts.com

MOVING AVERAGE CONVERGENCE AND DIVERGENCE (MACD)

Convergence and divergence of moving averages collectively form MACD. When two moving averages (12days, 26days) moves towards each other it is said to form convergence. When two moving average (12days, 26days) moves away from each other, it forms divergence. The shorter moving average (12-day) is faster and responsible for most MACD movements. The longer moving average (26-day) is slower and less reactive to price changes in the underlying security.
MACD Line: (12-day EMA - 26-day EMA)
Signal Line: 9-day EMA of MACD Line
MACD Histogram: MACD Line - Signal Line
Source: stockcharts.com

RESULTS AND INTERPRETATION

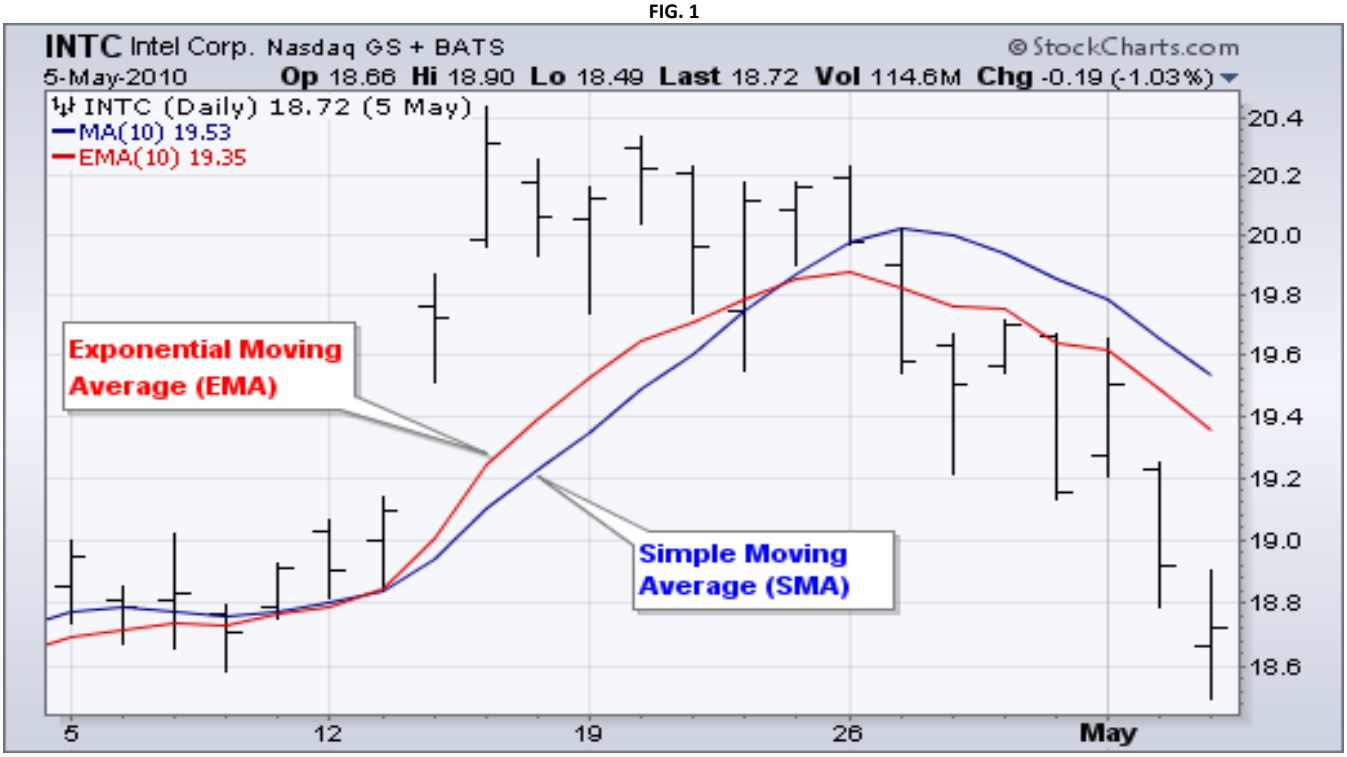
MOVING AVERAGES

TABLE 1

Moving average	Simple MA	Signal	Exponential MA	Signal
MA 5	27,172	BUY	27,149	BUY
MA 10	27,081	BUY	27,095	BUY
MA 20	27,983	BUY	27,025	BUY
MA 50	26,937	BUY	26,950	BUY
MA 100	26,888	BUY	26,929	BUY
MA 200	26,913	BUY	26,889	BUY

The simple and exponential moving averages are showing the long signal. These signals are relevant up to 20 preceding days of the analysis. At the time of analysis, the prices of gold were around 26500 and it was expected that the price of gold will increase as shown in the analysis. The price of gold moved up to 27200 after the analysis. Hence it can be stated that the moving averages provides the trend on which the prices tend to move.

FIG. 1



Source: stockcharts.com

MOVING AVERAGE CONVERGENCE AND DIVERGENCE (MACD)

Outcome of MACD (12,26) is 72.845
Hence, it indicates that the trend of the gold prices can be reversed from this point.

FIG. 2

Source: www.stockcharts.com

LIMITATIONS OF THE STUDY

1. Secondary data has been used in the study.
2. The data is collected from the web resources and it cannot be collected in the primary form.
3. Data before the date 1/11/2014 and after 30/04/2015 is preferred for the study.
4. The impact of uncontrollable situations (like wars, recession, defaults, etc) on market and their reflection on prices cannot be eliminated and it will continue to influence the price.
5. The international price of gold is not considered for the study and the impact of exchange rates has not been included.

RECOMMENDATIONS

from the above analysis made above, the result of indicators (moving averages and MACD) suggests that the commodity should be purchased in further expectation of price rise as calculated MACD indicates above high signals 72.845 and however, all moving averages are showing the positive results. These indicators provided the accurate prediction in the above scope of study. Hence, these indicators can be used for prediction of prices in the commodity market

CONCLUSION

The prices of Gold will rise to 27500 within the period of 15 days. The prediction in rise in price of gold is indicated by both the indicators used in the study. The moving averages suggest that the demand of the Gold can be increased in the near future and MACD suggests the trend reversal as the gold touches its line of 70 points on the graph. It is strongly predicted that the prices of Gold will tend to move upward as both the indicators showing the same result.

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SELF-HEALING USING BACKBONE

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ABSTRACT

Wireless networking is a new emerging era. It has potential applications in extremely unpredictable and dynamic environments. Individuals and industries choose wireless because it allows flexibility of location, whether that means mobility, portability, or just ease of installation at a fixed point. The challenge of wireless communication is that, the environment that wireless communications travel through is unpredictable. Despite early problems in overcoming this pitfall, the newest developments in self-healing wireless networks are solving the problem. Wireless networks that fix their own broken communication links may speed up their widespread acceptance. The changes made to the network architectures are resulting in new methods of application design for this medium. The paper presents a view on Self-healing networks and concept of backbone nodes have been given for basic problems of stable routing in wireless networks.

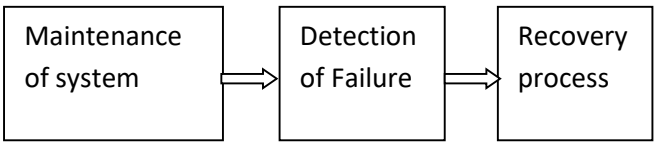
KEYWORDS

wireless networking, wireless communication.

1.0 INTRODUCTION

There is tremendous technological advance in producing small and smart devices. The number of embedded devices in appliances and vehicles is increasing at a rapid rate. Thousands of such devices can be used for applications[1,5] like: environmental data collection, weather forecasting, measuring toxicity levels at hazardous sites etc. It is a natural consequence that such devices work in a collaborative way. However, users carry around many such smart devices and they are not fixed in the sense of a desktop computer. Hence, there is a need for networking such mobile devices without any infrastructural support. There is a growing demand of using networks of mobile devices[2] anywhere and anytime. Cellular Phones and Internet provide some soluiton, but Cellular phones work with infrastructural support like mobile phone towers and satellite communication. However, such support comes at a cost like pre-registration with a mobile service provider etc. In many situations, the Internet may not be an efficient solution. For example, a collection of people trying to communicate in a hotel or conference hall. Adhoc network provide a solution to these problems. An ad hoc network is a collection of autonomous nodes, which may move arbitrarily so that the topology changes frequently. In contrast to conventional wireless networks, the nodes in Mobile ad hoc network communicate using wireless links without any fixed network infrastructure and centralized administrative support [14]. A node act both as source/destination for messages and as a switching or routing node. The purpose of an ad hoc network is to set up (possibly) a short-lived network for a collection of nodes. If all the wireless nodes are within the transmission range of each other, routing is easy. Every node can listen to all transmissions. However, this is not true in most situations, due to short transmission range. Hence, most ad hoc neworks are multi-hop [3, 5]. A message from a source node must go through intermediate nodes to reach its destination. All nodes cooperate in delivering messages across the network. A major problem of ad hoc network is route stability as mobility has a significant effect on network integrity. Link failures lead to a considerable packet loss in data transmission. In this paper a new proposal based on backbone nodes has been introduced to make route stable and follow the concept of self healing. Rest of paper is organised as : Section 2 highlights major issues of ad hoc network, Section 3 gives a detailed survey of self healing networks with techniques, proposed scheme is part of section IV and results and discussion have been made in section V. A simple recovery cycle is denoted in figure 1.

FIGURE 1: SELF HEALING CYCLE



Critical issues [4, 11] in self-healing systems typically include maintenance of system health, recovery processes to return the state from an unhealthy state to a health one. Self-healing components or systems typically have the following characteristics [11]: (a) perform the productive operations of the system, (b) coordinate the activities of the different agents, (c) control and audit performance, (d) adapt to external and internal changes and (e) have policies to determine the overall purpose of the system.

Most of the self-healing concepts are still in very early stages; still some possible areas explored are grid computing, software agents, middleware computing, ad hoc networks. Emphasis here is on ad hoc network self-healing characteristics. Thrust areas considered here are in routing and energy efficiency.

A) SELF HEALING IN ROUTING

The most promising developments in the area of self-healing wireless networks are ad hoc networks. They are decentralized, self-organizing, and automatically reconfigure without human intervention in case of broken links. Automated network analysis through link and route discovery and evaluations are the distinguishing features of self-healing network algorithms. Through discovery, networks establish one or more routes between the originator and the destination. Through evaluation, networks detect route failures, trigger renewed discovery, and in some cases select the best route available for a message. Because discovery and route evaluation consume network capacity so these two must be used carefully to achieve good network performance.

B) SELF HEALING IN ENERGY EFFICIENCY

As the network is always on, conserving energy is more difficult. One solution is On-demand discovery **[**12**].** It establishes only the routes that are requested by higher-layer software. On-demand discovery networks are only "on" when called for. This allows nodes to conserve energy and bandwidth and keeps the network fairly free of traffic. Once routes have been established, they must generally be maintained in the presence of failing equipment, changing environmental conditions, interference, etc. This maintenance may also be proactive or on-demand. Another solution can be Single-path routing [12**].** As for routing, network algorithms that choose single-path routing, single out a specific route for a given source-destination pair.

2.0 SELF HEALING NETWORK

In developing broadband digital networks, a short service-outage such as a link failure or a node failure can cause a serious impairment of network services. It is due to the volume of network traffic carried by a single link or node. Moreover, the outage can stimulate end users to try to re-establish their connections within a short time. The retrials, however, make the problem worse because the connection establishment increases the traffic volume further. Fast restoration from a network failure becomes a critical issue in deploying high-speed networks. Self healing algorithms have been recognized as a major mechanism for providing the fast restoration. A self-healing system [6] should recover from the abnormal state and return to the normal state, and should start functioning as it was prior to failure. One of the key issues associated with self-healing networks is to optimize the networks while expecting reasonable network failures [6,7,8]. Self-healing network (SHN) [9] is designed to support transmission of messages across multiple nodes while also protecting against recursive node and process failures. It will automatically recover itself after a failure occurs. The problem of self-healing is in networks that are reconfigurable in the sense that they can change their topology during an attack. One goal is to maintain connectivity in these networks, even in the presence of repeated adversarial node deletion. Modern computer systems are approaching scales of billions of components. Such systems are less akin to a traditional engineering enterprise such as a bridge, and more akin to a living organism in terms of complexity. A railway overbridge must be designed in such a way that, key components never fail, since there is no way for the bridge to automatically recover from system failure. In contrast, a living organism cannot be designed so that no component ever fails: there are simply too many components. For example, skin can be cut and still heal. Designing skin that can heal is much more practical than designing skin that is completely rigid to attack. Unfortunately, current algorithms ensure robustness in computer networks through hardening individual components or, at best, adding lots of redundant components [10]. Critical issues [11] in self-healing systems typically include; Maintenance of system health, recovery processes to return the state from an unhealthy state to a health one. Self-healing components or systems typically have the following characteristics [11]: (a) perform the productive operations of the system, (b) coordinate the activities of the different agents, (c) control and audit performance, (d) adapt to external and internal changes and (e) have policies to determine the overall purpose of the system. Most of the self-healing concepts are still in very early stages; still some possible areas explored are Grid computing, software agents, middleware computing, ad hoc networks. Emphasis here is on ad hoc network self healing characteristic. This section provides an analysis of various schemes that can be used as self healing schemes.

A) SELF HEALING IN ROUTING

The most promising developments in the area of self-healing wireless networks are ad hoc networks. They are decentralized, self-organizing, and automatically reconfigure without human intervention in the event of degraded or broken communication links between transceivers. Automated network analysis through link and route discovery and evaluation are the distinguishing features of self-healing network algorithms. Through discovery, networks establish one or more routes between the originator and the recipient of a message. Through evaluation, networks detect route failures, trigger renewed discovery, and—in some cases—select the best route available for a message. Because discovery and route evaluation consume network capacity, careful use of both processes is important to achieving good network performance.

B) SELF HEALING IN RF

Environmental radio-frequency (RF) [12] "noise" produced by powerful motors, other wireless devices, microwaves—and even the moisture content in the air—can make wireless communication unreliable. Despite early problems in overcoming this pitfall, the newest developments in self-healing wireless networks are solving the problem by capitalizing on the inherent broadcast properties of RF transmission. The changes made to the network architectures are resulting in new methods of application design for this medium.

C) SELF HEALING IN POWER EFFICIENCY

As the network is always on, conserving power is more difficult. One solution is On-demand discovery [11]. It establishes only the routes that are requested by higher-layer software. On-demand discovery networks are only "on" when called for. This allows nodes to conserve power and bandwidth and keeps the network fairly free of traffic. If, between transmissions, the link quality between nodes has degraded, however, on-demand networks can take longer to reconfigure and, thus, to deliver a message. Once routes have been established, they must generally be maintained in the presence of failing equipment, changing environmental conditions, interference, etc. This maintenance may also be proactive or on-demand. Another solution can be Single-path routing [11]. As for routing, network algorithms that choose single-path routing, as the name suggests, single out a specific route for a given source-destination pair. Sometimes, the entire end-to-end route is predetermined. Sometimes, only the next "hop" is known. The advantage of this type of routing is that it cuts down on traffic, bandwidth use, and power use. If only one node at a time needs to receive the packet, others can stop listening after they hear that they're not the recipient.

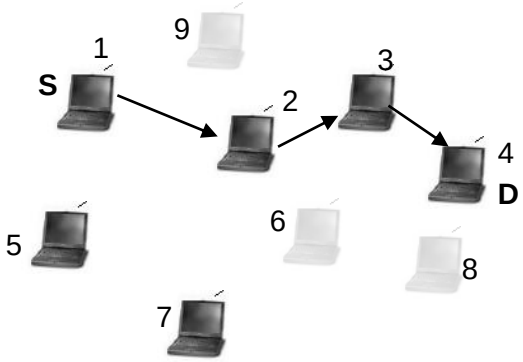
3.0 PROPOSED SCHEME

The proposed protocol helps to increase the stability of route in AODV with avoidance of route break. In this the route stability of the node is measured by following parameters:

1. Node energy
2. Node mobility
3. Traffic load

In this paper a new scheme, known as the Backbone based routing [16, 17] has been suggested which would allow mobile nodes to maintain routes to destinations with more stable route selection. This scheme responds to link breakages and changes in network topology in a timely manner. It uses concept of backbone nodes to participate in route selection, where backbone nodes are neighboring nodes at one hop distance from participating nodes. This makes route maintenance and recovery phase more efficient and fast. These backbone nodes help in reconstruction phase in the fast selection of new routes. Selection of backbone nodes is made upon availability of nodes. Each route table has an entry for number of backbone nodes attached to it. Whenever need for a new route arises in case of route break, check for backbone nodes are made, and a new route is established. Same process is repeated in route repair phase. Route tables are updated at each hello interval as in AODV with added entries for backbone nodes. These are nodes at the one hop distance from its neighbor. Backbone nodes are those nodes which are not participating in route process currently or nodes which enter the range of transmission during routing process. As nodes are in random motion for a scenario, so there is every possibility that some nodes are idle and are in the vicinity of the routing nodes. Whenever a break in the route phase occurs due to movement of participant node, node damage or for other reasons; these idle nodes which have been termed as backbone nodes take care of the process and start routing. The whole process becomes fast and more packet delivery is assured. The changes in the existing protocol are required at route reply and route recovery phases. In these phases the route table is updated with entries of backbone nodes. Each route table has an entry for number of backbone nodes surrounding it and their hop distance form the node. For simplicity of the protocol the distance has been assumed to be one hop. As has been described in Figure 2, the Route selection from S (source) to D (destination) is made via 1-2-3-4 using shortest path routing. In case any of the participating nodes damages or move out of the range, the backbone nodes can be 6, 8 and 9. These nodes are nearer to the routing path nodes and can join the process at any time.

FIGURE 2: ROUTING



4.0 CONCLUSION

In this paper a new scheme has been presented that utilizes alternate paths. The scheme can be incorporated into any ad hoc on-demand unicast routing protocol to heal link failures. It will improve reliable packet delivery even in route breaks. Alternate routes are utilized only when data packets cannot be delivered through the primary route. As a case study, the proposed scheme has been incorporated to AODV and it is expected that the performance improves. Study is going on currently investigating ways to make this new scheme robust to traffic load. The proposed scheme gives a better approach for on demand routing protocols for route selection and maintenance. It is expected that overhead in this protocol will be slightly higher than others, which is due to the reason that it requires more calculations initially for checking backbone nodes. This also may cause a bit more end to end delay. The proposal is to check this scheme for more detailed and realistic channel models with fading and obstacles in the simulation. Efforts are on to simulate the scheme using NS2 and compare results with existing schemes. Self-healing systems are relatively new to both for the academia and the industry. However, hope is to see a large number of systems, software and architectures that borrow from nature, ideas and concepts vary quickly in future. Modeling computer security using biology as a motivation can help in creating adaptive systems that provide functionality despite the possibility of disasters. The obvious goal is to generate a technique that will reveal that Self-healing networks are designed to be robust even in environments where individual links are unreliable, making them ideal for dealing with unexpected circumstances. The dynamic nature that gives these networks their self-healing properties, however, also makes them difficult to test. Even after multiple deployments and thorough simulation, it's difficult to predict how these systems will work (or fail) in actual emergencies. Though the best use for technologies are often difficult to predict, still one can almost certain that the self-healing networks is waiting to be developed and getting popular.

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DAWN OF IND AS

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ABSTRACT

The following paper gives an overview of the need for convergence with IFRS and the benefits of implementing IND AS in the Indian context. Accounting standards are issued by the government to cover different aspects of recognition, measurement and presentation of financial statements to give a true and fair view to the users. IND AS is the new dynamic regulation outdating all other Accounting Standards suitable to the Indian Economic environment accepted globally.

KEYWORDS

IFRS, IND AS, IASB, accounting standards.

INTRODUCTION

Accounting Standards are written policy documents issued by the government or professional institutes or other regulatory body covering various aspects of recognition measurement, treatment, presentation and disclosure of accounting transactions in the financial statements.
The accounting standards seek to describe the accounting principles, the valuation techniques and methods of applying the accounting principles in the preparation and presentation of financial statements so that they may give a true and fair view.
Accounting standards which are suitable to our economic environment are termed IND AS.
IFRS issued by the IASB is not completely accepted by the government and ICAI. Only at the terminology level certain changes have been made to keep it on par with the prevailing law.

IFRS-DEVIATIONS=IND AS (CONVERGED)

AS are in India for the last 40 years and these standards have been developed by Accounting Standards Board.

NEED FOR CONVERGENCE WITH IFRS

A number of multi-national companies are establishing their businesses in various countries with emerging economies and vice versa. Hence there is a need for a single globally accepted financial reporting system.
The business entities in emerging economies are increasingly accessing the global markets by listing their securities in the stock exchanges outside the country.
The different accounting frameworks in different countries create confusion for users of financial statements. Thus there is a need to have a single set of globally accepted accounting standards prompting many countries to converge Accounting Standards with IFRS.

DECLINE OF ACCOUNTING STANDARDS AND RISE OF IND-AS IN INDIA

- Developed and issued by Accounting Standards Board (ASB) constituted in 1977.
- Standards till date were known as AS (most popularly I-GAAP). Mandatory for companies registered under Companies Act.
- Totally 28 standards being used for nearly 40 years now.
- Convergence started with concept paper issued in 2007.
- Benefits of convergence dominate merits of IND AS.
- Maintains consistency with legal and regulatory requirements in India as committed to the G20 resolution.
- Ind-AS actively promotes global harmonization of Accounting Standards.

Implementation of Ind AS for Companies other than banks, NBFCs and Insurance Companies and Scheduled Commercial Banks (Excluding RRBs), Insurers/Insurance Companies and Non-Banking Financial Companies (NBFC's)

TABLE 1

Type of organization	Phases Of Implementation	Applicability
Companies other than banks, NBFCs and Insurance Companies	Phase I:	**1st April 2015:** Voluntary Basis for any company and its holding, subsidiary, JV or associate company **1st April 2016:** Mandatory Basis (a) Companies listed/in process of listing on Stock Exchanges in India or Outside India having net worth > INR 500 crore (b) Unlisted Companies having net worth > INR 500 crore (c) Parent, Subsidiary, Associate and J. V of Above
	Phase II:	**1st April 2017:** Mandatory Basis (a) All companies which are listed/or in process of listing inside or outside India on Stock Exchanges not covered in Phase I (other than companies listed on SME Exchanges) (b) Unlisted companies having net worth INR 500 crore >INR 250 crore (c) Parent, Subsidiary, Associate and J. V of Above Companies listed on SME exchange not required to apply Ind AS
NBFCs	Phase I:	**From 1st April, 2018**: (with comparatives) • NBFCs (whether listed or unlisted) having net worth 500 crore or more • Holding, Subsidiary, JV and Associate companies of above NBFC other than those already covered under corporate roadmap shall also apply from said date
	Phase II:	From 1st April, 2019 (with comparatives) NBFCs whose equity and/or debt securities are listed or are in the process of listing on any stock exchange in India or outside India and having net worth less than 500 crore • NBFCs that are unlisted having net worth 250 crore or more but less 500 crore • Holding, Subsidiary, JV and Associate companies of above other than those already covered under corporate roadmap shall also apply from said date • Applicable for both Consolidated and individual Financial Statements • NBFC having net worth below 250 crores shall not apply Ind AS. • Adoption of Ind AS is allowed only when required as per the roadmap. • Voluntary adoption of Ind AS is not allowed.
Insurers/Insurance companies		From 1st April, 2018 (with comparatives): • Holding, subsidiary, JV and Associates companies of scheduled commercial banks (excluding RRB's) shall also apply from the said date irrespective of it being covered under corporate roadmap. • Applicable for both Consolidated and individual Financial Statements • Urban Cooperative banks (UCBs) and Regional Rural banks (RRBs) are not required to apply Ind AS.

India announced the application of new standards effective from 1st April 2016 in a phased manner. India is not adopting IFRS but converging through IND AS. Existing standards will cease to apply after that date. Hence there is a need to adopt the new standards.

BENEFITS OF IND-AS

TABLE 2

TO THE INDUSTRY	• Enhancement of quality and transparency in financial reporting of companies. • Enhancement of international comparability of financial statements. • Easy procurement of capital in international markets.
TO THE GOVERNMENT	• Compliance of the WTO norms. • Enables accurate data for decision making.
TO THE INVESTORS	• Make Indian capital markets more attractive for international investors through better rate of returns on investment.

CHALLENGES OF IND-AS IMPLEMENTATION

- The standards are mandatory for the companies which are covered by IND AS and hence implementation may pose problems.
- Access to resources as per IND AS requirements is a constraint for preparing and auditing financial statements.
- Adaptation of IND AS through modification of internal control systems, IT systems and process.
- Compliance to IND AS for tax planning, loan covenants, incentive plans and new acquisitions.

COMPARISON OF IFRS WITH IND AS NOTIFIED BY THE MCA

TABLE 3

Sl No.	IAS Indian Accounting Standard/IFRS	IND AS
1.	IAS 1	Ind AS 1 *Presentation of Financial Statements*
2.	IAS 2	Ind AS 2 *Inventories*
3.	IAS 7	Ind AS 7 *Statement of Cash Flows*
4.	IAS 8	Ind AS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*
5.	IAS 10	Ind AS 10 *Events after the Reporting Period*
6.	IAS 11	Ind AS 11 *Construction Contracts*
7.	IAS 12	Ind AS 12 *Income Taxes*
8.	IAS 16	Ind AS 16 *Property, Plant and Equipment*
9.	IAS 17	Ind AS 17 *Leases*
10.	IAS 18	Ind AS 18 *Revenue*
11.	IAS 19	Ind AS 19 *Employee Benefits*
12.	IAS 20	Ind AS 20 *Accounting for Government Grants and Disclosure of Government Assistance*
13.	IAS 21	Ind AS 21 *The Effects of Changes in Foreign Exchange Rates*
14.	IAS 23	Ind AS 23 *Borrowing Costs*
15.	IAS 24	Ind AS 24 *Related Party Disclosures*
16.	IAS 26 * *Accounting and Reporting by Retirement Benefit Plans* *Ind AS corresponding to IAS 26, *Accounting and Reporting by Retirement Benefit Plans*, has not been issued as this standard is not applicable to companies.	
17.	IAS 27	Ind AS 27 *Consolidated and Separate Financial*
18.	IAS 28	Ind AS 28 *Investments in Associates and Joint Ventures*
19.	IAS 29	Ind AS 29 *Financial Reporting in Hyperinflationary Economies*
20.	IAS 32	Ind AS 32 *Financial Instruments: Presentation*
21.	IAS 33	Ind AS 33 *Earnings per Share*
22.	IAS 34	Ind AS 34 *Interim Financial Reporting*
23.	IAS 36	Ind AS 36 *Impairment of Assets*
24.	IAS 37	Ind AS 37 *Provisions, Contingent Liabilities and Contingent Assets*
25.	IAS 38	Ind AS 38 *Intangible Assets*
26.	IAS 39 ** *Financial Instruments: Recognition and Measurement* ** Since India has decided to converge early with IFRS 9, *Financial Instruments*. Accordingly, Ind AS 109, *Financial Instruments*, has been issued and Ind AS39, *Financial Instruments: Recognition and Measurement*, has not been issued.	
27.	IAS 40	Ind AS 40 *Investment Property*
28.	IAS 41	Ind AS 41 *Agriculture*
29.	IFRS 1	Ind AS 101 *First-time Adoption of Indian Accounting Standards*
30.	IFRS 2	Ind AS 102 *Share-based Payment*

31.	IFRS 3	Ind AS 103 *Business Combinations*
32.	IFRS 4	Ind AS 104 *Insurance Contracts*
33.	IFRS 5	Ind AS 105 *Non-current Assets Held for Sale and Discontinued Operations*
34.	IFRS 6	Ind AS 106 *Exploration for and Evaluation of Mineral Resources*
35.	IFRS 7	Ind AS 107 *Financial Instruments: Disclosures*
36.	IFRS 8	Ind AS 108 *Operating Segments*
37.	IFRS 9	Ind AS 109 *Financial Instruments*
38.	IFRS 10	Ind AS 110 *Consolidated Financial Statements*
39.	IFRS 11	Ind AS111 *Joint Arrangements*
40.	IFRS 12	Ind AS 112 *Disclosure of Interest in Other Entities*
41.	IFRS 13	Ind AS 113 *Fair Value Measurement*
42.	IFRS 14	Ind AS 114 *Regulatory Deferral Account*

CONCLUSION

Implementation of IND AS may be difficult in the initial stages but provides a lot of benefits to the end users in the long run. Companies may revisit their dividend payment policies to prioritize interim dividends. MAT issue is a major challenge for companies as well as CBDT. Management estimations play major role and could be challenging initially to maintain accuracy and consistency.

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ANALYSING THE BALANCE OF PAYMENT POSITION OF INDIA

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ABSTRACT

The balance of payment position is an essential measure of the sound health of an economy and can be studied under the major heads of Current Account, Capital Account and international reserves. This analytical paper attempts to study the current position in the components of the Balance of payment. It is observed in the current account that despite moderation in India's exports, India's external sector position has been comfortable, with the current account deficit progressively contracting from 4.8 per cent of Gross Domestic Product in 2012-13 to 1.1 per cent of Gross Domestic Product in 2015-16. It is further observed in the capital account that despite higher net repayments on overseas borrowings and fall in banking capital (net) with building up of foreign currency assets by banks & decline in Non Resident Indian deposits (net), robust inflow of foreign direct investment and net positive inflow of foreign portfolio investment were sufficient to finance Current Account Deficit leading to an accretion in foreign exchange reserves in H1 of 2016-17. Thus the ability to face global financial crisis is stronger than earlier with greater depth in the financial markets, more foreign exchange reserves and inflow of foreign investments.

KEYWORDS

balance of payment, capital account, current account deficit, foreign capital.

1. INTRODUCTION

The balance of payments, also known as the balance of international payments and abbreviated B.O.P., of a country is the record of all economic transactions between the residents of the country and the rest of the world in a particular period (over a quarter of a year or more commonly over a year). These transactions are made by individuals, firms and government bodies. Thus the balance of payments includes all external visible and non-visible transactions of a country.

The basic structure of the Balance of Payments (BOP) of India consists of:

(i) Current account: exports and imports of goods, services, income (both investment income and compensation of employees) and current transfers;

(ii) Capital account: assets and liabilities covering direct investment, portfolio investment, loans, banking capital and other capital;

(iii) Statistical discrepancy;

(iv) International reserves and IMF transactions.

The Balance of payment can be better appreciated in terms of the national income accounting identity: GDP = C+G+I+X-M. In other words, domestic output (GDP) is equal to private consumption (C), plus government consumption (G), plus domestic investment (I), plus net exports (X-M). When the net exports of goods and services (X-M) are negative, the domestic economy is absorbing more than it can produce. In other words, absorption (C+G+I) by the domestic economy is greater than domestic output (GDP). This is reflected in current account deficit (X-M) which needs to be financed by external borrowings and/or investments. (Mohanty 2012). After the financial liberalisation in 1991, external borrowings are easily available and investments have been flowing in the form of FDI, Portfolio and FII. However, in such situations the domestic economy is more prone to react to global imbalances. Import substitution is also necessary in order to control the domestic absorption. Ganguli (1957) maintained that the pull of the comparatively free play of domestic demand upon exportable commodities, combined with rising costs, has created a situation where there is a tendency for diversion of goods from the external to the domestic market.

1.1 BALANCING MECHANISM

REBALANCING BY CHANGING THE EXCHANGE RATE

An upwards shift in the value of a nation's currency relative to others will make a nation's exports less competitive and make imports cheaper and so will tend to correct a current account surplus. It also tends to make investment flows into the capital account less attractive so will help with a surplus there too. Conversely a downward shift in the value of a nation's currency makes it more expensive for its citizens to buy imports and increases the competitiveness of their exports, thus helping to correct a deficit. Exchange rates can be adjusted by government in a rules based or managed currency regime, and when left to float freely in the market they also tend to change in the direction that will restore balance. When a country is selling more than it imports, the demand for its currency will tend to increase as other countries ultimately need the selling country's currency to make payments for the exports. The extra demand tends to cause a rise of the currency's price relative to others. When a country is importing more than it exports, the supply of its own currency on the international market tends to increase as it tries to exchange it for foreign currency to pay for its imports, and this extra supply tends to cause the price to fall. BoP (Balance of Payments) effects are not the only market influence on exchange rates however; they are also influenced by differences in national interest rates and by speculation.

REBALANCING BY ADJUSTING INTERNAL PRICES AND DEMAND

When exchange rates are fixed by a rigid gold standard, or when imbalances exist between members of a currency union such as the Eurozone, the standard approach to correct imbalances is by making changes to the domestic economy. To a large degree, the change is optional for the surplus country, but compulsory for the deficit country. In the case of a gold standard, the mechanism is largely automatic. When a country has a favourable trade balance, as a consequence of selling more than it buys it will experience a net inflow of gold. The natural effect of this will be to increase the money supply, which leads to inflation and an increase in prices, which then tends to make its goods less competitive and so will decrease its trade surplus. However, the nation has the option of taking the gold out of economy (sterilising the inflationary effect) thus building up a hoard of gold and retaining its favourable balance of payments. On the other hand, if a country has an adverse BoP it will experience a net loss of gold, which will automatically have a deflationary effect, unless it chooses to leave the gold standard. Prices will be reduced, making its exports more competitive, and thus correcting the imbalance. While the gold standard is generally considered to have been successful up until 1914, correction by deflation to the degree required by the large imbalances that arose after WWI proved painful, with deflationary policies contributing to prolonged unemployment but not re-establishing balance. Apart from the US most former members had left the gold standard by the mid-1930s.

A possible method for surplus countries to contribute to re-balancing efforts when exchange rate adjustment is not suitable is to increase its level of internal demand (i.e. its spending on goods). While a current account surplus is commonly understood as the excess of earnings over spending, an alternative expression is that it is the excess of savings over investment. That is:

CA = NS - NI

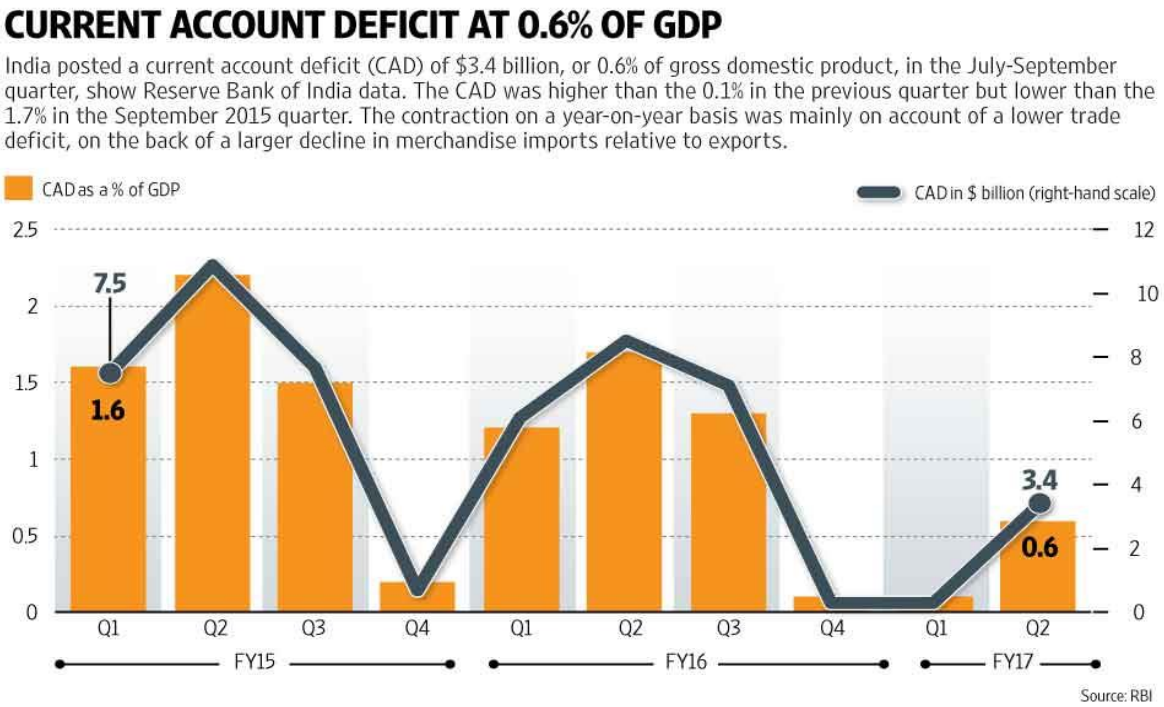
Where *CA* = current account, *NS* = national savings (private plus government sector), *NI* = national investment.

If a nation is earning more than it spends the net effect will be to build up savings, except to the extent that those savings are being used for investment. If consumers can be encouraged to spend more instead of saving; or if the government runs a fiscal deficit to offset private savings; or if the corporate sector divert more of their profits to investment, then any current account surplus will tend to be reduced. In their April 2010 world economic outlook report, the IMF presented a study showing how with the right choice of policy options governments can shift away from a sustained current account surplus with no negative effect on growth and with a positive impact on unemployment.

2. CURRENT ACCOUNT DEFICIT

he current account records revenue transactions of the country with the rest of the world which has short term implications. It includes export and import of goods and services, repayments and dividends from loans and investments. The current account is an important indicator about an economy's health. If an economy is running a current account deficit (CAD), it is absorbing (absorption = domestic consumption + investment + government spending) more than that it is producing. This can only happen when other economies are lending their savings to it (in the form of debt to or direct/ portfolio investment in the economy) or the economy is running down its foreign assets such as official foreign currency reserve. On the other hand, if an economy is running a current account surplus it is absorbing less than that it is producing. This means it is saving. As the economy is open, this saving is being invested abroad and thus foreign assets are being created. India had always recorded a current account deficit which has varied from almost 5% to less than 1%. The present scenario of CAD is much more sustainable with a stronger financial system, increased foreign exchange reserves and a decline in the merchandise imports as compared to exports.

FIGURE 1: CURRENT ACCOUNT DEFICIT



A nation's current account balance is influenced by numerous factors like its trade policies, exchange rate, competitiveness, forex reserves, inflation rate and others. Since the trade balance (exports minus imports) is generally the biggest determinant of the current account surplus or deficit, the current account balance often displays a cyclical trend. During a strong economic expansion, import volumes typically surge; if exports are unable to grow at the same rate, the current account deficit will widen, which is typically the state of India. Conversely, during a recession, the current account deficit will shrink if imports decline and exports may increase to stronger economies. The currency exchange rate plays a significant influence on the trade balance, and therefore, on the current account. An overvalued currency makes imports cheaper and exports less competitive, thereby widening the current account deficit (or narrowing the surplus). An undervalued currency, on the other hand, boosts exports and makes imports more expensive, thus increasing the current account surplus (or narrowing the deficit). Let us take the case of India where emphasis on heavy industrialisation in the second five-year Plan led to a sharp increase in imports. On top of this, the strains of Indo-China conflict of 1962, Indo-Pakistan war of 1965 and severe drought of 1965–66 triggered a major BoP crisis. India's international economic relations with advanced countries also came under stress during the Indo-Pak conflict. Withdrawal of foreign aid led to contraction in capital inflows. Given the low level of foreign exchange reserves and burgeoning trade deficit, India had no option other than to devalue. Rupee was devalued by 36.5 per cent in June 1966(Official rate increased from Rs.4.76 per US dollar to Rs.7.50 per US dollar).

Action to reduce a substantial current account deficit usually involves increasing exports (goods going out of a country and entering abroad countries) or decreasing imports (goods coming from a foreign country into a country). Firstly, this is generally accomplished directly through import restrictions, quotas, or duties (though these may indirectly limit exports as well), or by promoting exports (through subsidies, custom duty exemptions etc.). Influencing the exchange rate to make exports cheaper for foreign buyers will indirectly increase the balance of payments. Less obvious methods to reduce a current account deficit include measures that increase domestic savings (or reduced domestic borrowing), including a reduction in borrowing by the national government.

However, a current account deficit is not always a problem if it is majorly driven by the private sector. It is also known as the "consenting adults" view of the current account, as it holds that deficits are not a problem if they result from private sector agents engaging in mutually beneficial trade. A current account deficit creates an obligation of repayments of foreign capital, and that capital consists of many individual transactions.

It is also worth noting that if we have a current account deficit, in a floating exchange rate this must be balanced by a surplus on the financial / capital account.

3. CAPITAL ACCOUNT

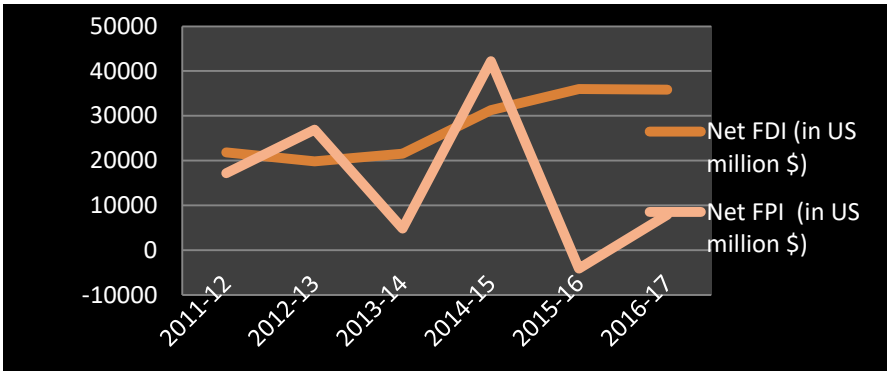
The capital account records the net change in ownership of foreign assets i.e. changes in foreign ownership of domestic assets and changes in domestic ownership of foreign assets. It includes the reserve account (the foreign exchange market operations of a nation's central bank), along with loans and investments between the country and the rest of world. If a country purchases more foreign assets for cash than the assets it sells for cash to other countries, the capital account is said to be negative or in deficit. The capital account includes the foreign direct investment, the portfolio and other investments and the reserve account. Thus foreign investment (direct or indirect) plays a major role in determining the capital account position of a country.

TABLE 1: FOREIGN INVESTMENT INFLOW (US$ Million)

Sl	Items	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12
A	FDI to India	43770	44907	35284	30762	26953	32958
B	FDI by India	7896	8886	4031	9199	7134	11097
C	Net FDI (A-B)	35874	36021	31253	21563	19819	21861
D	GDRs/ADRs	--	373	1271	20	187	597
E	FIIs	7735	-4016	40923	5009	27582	16813
F	Offshore funds and others	--	--	--	--	--	--
G	FPI by India	-177	487	-11	207	878	238
H	Net FPI(D+E+F-G)	7912	-4130	42205	4822	26891	17171
I	FII (C+H)	43786	31891	73458	26385	46710	39032

Data source: RBI

FIGURE 2: TREND IN FDI AND FPI



The foreign investment inflow comprising of the direct and portfolio investment has been on a rising trend since the financial liberalisation in 1991. However, a lot of financial products have been added with time mainly to the capital account which has been leveraged by the corporate sector to access foreign capital. As seen in figure 2 the volatility of portfolio investment is the larger concern for which the country needs to sterilise foreign capital and control capital account transactions.

3.1 CONTROL OF FOREIGN CAPITAL

Capital controls are measures imposed by a state's government aimed at managing capital account transactions. They include outright prohibitions against some or all capital account transactions, transaction taxes on the international sale of specific financial assets, or ceilings on the size of international sales and purchases of specific financial assets. Countries without capital controls that limit the buying and selling of their currency at market rates are said to have full capital account convertibility.

Following the Bretton Woods agreement established at the close of World War II, most nations put in place capital controls to prevent large flows either into or out of their capital account. Both advanced and emerging nations adopted controls; in basic theory it may be supposed that large inbound investments will speed an emerging economy's development, but empirical evidence suggests this does not reliably occur, and in fact large capital inflows can hurt a nation's economic development by causing its currency to appreciate, by contributing to inflation, and by causing an unsustainable "bubble" of economic activity that often precedes financial crisis. The inflows sharply reverse once capital flight takes places after the crisis occurs. Several emerging economies such as Brazil and India have begun to implement or at least signal the possible adoption of capital controls to reduce the flow of foreign capital into their economies.

The Indian economy like many developing nations has gone through a massive restructuring with regard to capital flows in the last ten years. It has also witnessed major financial global crisis. While many developing countries have indeed benefited greatly from inflows of foreign capital, sudden stops and reversals of these flows have resulted in costly crises in some of these countries.

3.2 STERILISATION OF FOREIGN CAPITAL

It refers to the actions/interventions by the country's central bank to safeguard the economy against potential harmful impacts of foreign capital inflows. The key issue under consideration of the monetary authority is to determine whether the capital inflows are of a permanent and sustainable nature or whether such inflows are temporary and subject to reversal. The appropriate management of monetary policy may require the monetary authorities to consider offsetting the impact of such foreign exchange market intervention, partly or wholly, so as to retain the intent of monetary policy through such intervention. Most techniques to offset the impact of forex inflows can be classified as either market based or non-market based approaches. The market based approach involves financial transactions between the central bank and the market, which leads to withdrawal or injection of liquidity, as the case may be. The non-market based approach involves the use of quantitative barriers, rules or restrictions in market activity, which attempt to keep the potential injection of liquidity outside the domestic financial system. The market based approach aimed at neutralising part or whole of the monetary impact of foreign inflows is termed as sterilisation. The steps in the sterilisation process are:

a. decision of the monetary authority to intervene by substituting foreign currency with domestic currency in case of excess capital inflows, and
b. decision to intervene further in the bond or money market to substitute domestic currency so released out of the intervention in forex market with bonds or other eligible paper through open market operation.

Apart from exchange rate flexibility and forex market intervention there are several other policy responses that can be used to manage large capital inflows like trade liberalisation, investment promotion, liberalisation of the capital account, management of external debt, taxation of inflows, and use of foreign exchange reserve and so on.

4. INTERNATIONAL RESERVES

Foreign exchange reserves of a country or the reserve of international currencies other than the home currency facilitate external trade and payment and promote orderly development and maintenance of foreign exchange market. The foreign exchange reserves of India consist of four categories namely a. Foreign Currency Assets, b. Gold, c. Special Drawing Rights (SDRs) and d. Reserve Tranche Position in the IMF. The total foreign exchange reserves reached the milestone of 100 $ billion only in 2004 whereas it took just four years to reach the 300 $ billion mark owing to the immense amount of foreign funds flowing into the country due to opening up the current account and a lot of capital account transactions too. However, the forex reserve fell sharply immediately after the global financial crisis of 2008. India was forced to sell dollars close to U$35 billion in the spot markets in Financial Year 2009 due to 22% depreciation in rupee (against the dollar) in the same fiscal year 2009. Therefore, the stability in foreign exchange rate, reduction in trade deficits, favourable foreign investment options and above all a stable financial system is essential to maintaining foreign exchange reserves as it acts as the first line of defence in case of an economic slowdown. The various crises of

the past two decades have highlighted the need for the EMEs to maintain a healthy forex reserve cover as this helps in inspiring confidence of the market in the ability of the central bank to contain volatility at the time of any crisis (Anand Prakash 2012).

5. CONCLUSION

The balance of payment position of India has undergone considerable amount of periodic pressures and evolved through the instabilities arising out of various internal and external crisis. There have been structural changes to address volatility in foreign capital, exchange rate movements, and current account deficits and to have a stronger forex reserve.

TABLE 2: SUMMARY OF BALANCE OF PAYMENTS (US$ Billions)

	2013-14	2014-15	2015-16	2015-16 H1	2016-17 H1
Current Account Balances	-32.4	-26.9	-22.2	-14.7	-3.7
Total Capital Account (Net)	47.9	88.3	40.1	25.3	19.2
Reserve Movement (- increase) and (+ decrease)	-15.5	-61.4	-17.9	-10.6	-15.5
Trade balance/GDP (%)	-7.9	-7.1	-6.3	-7.1	-4.6
Invisible Balance/GDP (%)	6.2	5.8	5.2	5.7	4.3
Current Account Balance/GDP (%)	-1.7	-1.3	-1.1	-1.5	-0.3
Net Capital Flows/GDP (%)	2.6	4.3	1.9	2.5	1.8

Source: Economic Survey 2016-17

The summary of balance of payments shows not so worrying figures at present. While the CAD has progressively contracted to 1.1% in 2015-16, the same trend can be expected to be followed and the figure could even be below the 1% level. In 2016-17 (H1), sharp contraction in trade deficit outweighed the decline in net invisible earnings. The downward spiral in international crude oil prices resulted in a decline in oil import bill by around 18 per cent which together with a sharp decline in gold imports led to a reduction in India's overall imports (on BoP basis).According to study (Rajan Goyal 2012), CAD between 2.4 to 2.8 per cent of GDP is sustainable over the medium term under the assumptions that GDP growth ranges between 6.0 and 8.0 per cent, inflation hovering around 5.0 per cent level and interest rate and size of capital flows broadly following their trends in the recent past.

In H1 of 2016-17, India's foreign exchange reserves increased by US$ 15.5 billion on BoP basis (*i.e.*, excluding valuation effects), while in nominal terms (*i.e.*, including valuation effect) the increase was to the tune of US$ 11.8 billion. The loss due to valuation changes of US$ 3.7 billion mainly reflects the appreciation of the US dollar against major currencies.

In the capital account, robust inflow of foreign direct investment (FDI) and net positive inflow of foreign portfolio investment (FPI) were sufficient to finance CAD leading to an accretion in foreign exchange reserves in H1 of 2016-17. Inflows on account of FIIs, particularly into the equity segment, and positive sentiments generated by a narrower CAD in

H1 of 2016-17 also helped the rupee to move in a narrow range. The rupee depreciation has been the lowest among other emerging market economies. There was net inflow of portfolio investment of 7900 US$ Million in 2016-17 as against negative 4100 US$ Million in 2015-16. Thus the balance of payment position looks comforting to the government and promising to foreign investors with constant vigilance from the central bank.

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A STANDARD EVACUATION PROCESS OF MOBILE AGENTS USING PRE-PROCESSING TECHNIQUES

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ABSTRACT

A Mobile agent is "a program that is self-governing enough to act separately, even when the user or application that launched it is not available to provide guidance and handle errors". In general terms, it is a program that acts in behalf of its owner. A mobile agent is an object that migrates through many nodes of a assorted network of computers, under its own control, in order to perform tasks using resources of these nodes.

KEYWORDS

e-commerce, m-commerce, mobile agents, active object.

1. INTRODUCTION

A Mobile agent is "a program that is sovereign enough to act in antagonism, even when the user or application that launched it is not available to provide regulation and handle errors". In general terms, it is a program that acts in behalf of its holder. A mobile agent is an object that migrates through many nodes of a assorted network of computers, under its own control, in order to perform tasks using resources of these nodes. A Mobile Agent is a type of software agent with the feature of autonomy, social ability, learning, and most importantly, mobility. The mobile agent is a process that can transport its state from one environment to another, with its data intact, and be capable of performing appropriately in the new environment.

A mobile agent is a precise form of mobile code, within the field of code mobility. However, in contrast to the isolated valuation and Code on demand programming paradigms, mobile agents are dynamic in that they can desire to drift between computers at any time during their implementation. This makes them a powerful tool for implementing distributed applications in a computer network. An untie multi agent system is a system in which agents that are owned by a mixture of stakeholders incessantly enter and disappear the system.

A mobile agent is an object that migrates through many nodes of an assorted network of computers, under its personal control, in order to perform tasks using resources of these nodes. The uses of this technology represent a change in the disseminated programming paradigm. This approach provides many benefits to the development of distributed applications but introduce new necessities to the engineering of these systems.

The development of distributed applications is directly influenced by the choice of an architecture style. The necessities of the system as scalability, fault tolerance, response time, and support for disconnected operations and so on, are important point to be measured and reasoned before the implementation of a system.

2. NATURE OF MOBILE AGENT

A mobile agent consists of the program code and the program execution state. Originally a mobile agent resides on a computer called the abode machine. The agent is then dispatched to perform on an isolated computer called a mobile agent host (a mobile agent host is also called mobile agent platform or mobile agent server). When a mobile agent is dispatched the complete code of the mobile agent and the execution state of the mobile agent is transfer to the host. The host provides a appropriate execution environment for the mobile agent to execute [6].

The mobile agent uses wherewithal (CPU, memory, etc.) of the host to perform its task. After completing its task on the host, the mobile agents migrate to another computer. While the state information is also transferred to the host, mobile agents can resume the carrying out of the code from where they left off in the previous host instead of having to restart execution from the commencement. This continues awaiting the mobile agent returns to its home machine after completing execution on the last machine in its schedule.

2.1. MOBILE AGENTS FUNCTIONALITY

Mobile agents are distinct as active objects or cluster of objects that have performance, state and position.

- Mobility: Agents that can travel in network
- Autonomy: Agent itself decides when and where to migrate next

Mobile Agent travels from node to node of a distributed system performing tasks in behalf of its owner. At the end of this process, an agent can return to its abode site and report itself to the users who inject this object in the disseminated system. Mobile agents decide when and where to move. Movement is often evolved from Remote Procedure Call (RPC) methods. As like a user directs an Internet browser to "visit" a website, a mobile agent accomplishes a move through data duplication. As the interaction between the agent and the resource after moving is perform in the similar host, not including the transmission of messages through the network, this paradigm is indicating for some kinds of real time distributed applications.

2.2. LIFE CYCLE OF MOBILE AGENT

- The mobile agent is created in the Client Machine.
- The mobile agent is dispatched to the Server A for execution.
- The agent executes on Server A.
- After execution the agent is cloned to create two copies. One copy is dispatched to Server B and the other are dispatched to Server C.
- The cloned copies execute on their respective hosts.
- After execution, Server B and Server C send the mobile agent received by them back to the Client Machine.
- The Client Machine retracts the agents and the data brought by the agents is analyzed. The agents are then disposed.

3. APPLICATIONS OF MOBILE AGENTS

The study describes many applications that can benefit from the use of the mobile agent. These are mobile computing, workflow management and electronic commerce [5]. Additionally, new applications as runtime software change and software exploitation can also benefit from this technology. Some of these applications are listed as follows.

3.1 ELECTRONIC COMMERCE

Mobile agents, acting as customers, can be configured to move through different nodes from a network in order to perform commercial transactions on behalf of its owner. In a virtual shopping center scenario, provisions offer products with different model and price. Agents represent the user needs and interests, being outfitted with a buying list. The agents can search for some kind of product or service, compare its prices and perform purchases and orders on behalf of its owner.

3.1.1. WORKFLOW MANAGEMENT SYSTEM

Workflow is computer interpretable description of activity, and their implementation order. Workflow Management Systems (WFMS) are used to automate and coordinate the execution of technical tasks. Tasks can be performed concurrently by many users and automated applications. These tasks can be modeled as independent agents that move through the network nodes, carrying the data and controlling the execution of the activities in a WFMS.

3.1.2. RUNTIME CHANGE OF SOFTWARE

Software systems can be specially specified and configured to be changed at runtime. Software agents can be deployed conveying updates of modules and software configurations. Its intrinsic capability of conveying data and their ability to execute operations in the current machine can be used to control and coordinate the process of stopping, modifying, and updating a system at runtime.

The other application areas are:

- Data collection from many places
- Searching and filtering
- Monitoring
- Negotiating
- Bartering
- Parallel processing
- Entertainment
- Targeted information dissemination

3.1.3. MOBILE AGENTS IN E-COMMERCE

A few of research effort which uses MA for E-Commerce applications are:

Sakaguchi et al. [2] proposed a shopping assistant agent for Web-shops. The shopping assistant agent works on a web server, a PCs-sale site. The agent has been applied to help potential buyers of built-to-order (BTO) PCs. There are three features of the interaction with this agent. (1) Two interaction channels: selection and conversation. (2) Flexible topic change: the user can trigger a new conversation flow even in the middle of a conversion. (3) Personalized Interaction: the interaction is personalized according to user behavior. There are three methods for the user to get advice from this agent. (1) Answer questions from the agent. (2) Ask the agent questions. (3) Refer to an additional message from the agent.

Lesser et al. [3] developed an information gathering agent that processes Web documents to create product models and recommend purchases based on user selection criteria. The architecture of this information gathering agent includes the following components:

- Resun (Resolving Sources of Uncertainty)
- Planner: a blackboard-based interpretation planner
- Information extractors: test-extraction tools
- Document classifiers: text-processing filters
- Server information database: a local database of information sources stored
- Object database: a local database stores product information
- Design-to-Criteria (DTC) scheduler: an agent-control problem solver
- TAEMS modeling language: a Task, Analysis, Environment Modeling, and Simulation language
- Task assessor: a software module manages the interface between the Resun opportunistic planner and DTC scheduler.

4. DESIGN AND EXECUTION OF PRE-PROCESSING

After an agent has sensed its environment, it needs to form an internal representation. Furthermore, based on this representation, the agent selects which action to perform, i.e. how to react to the state of the environment. However, as in context-aware applications, the sensor measurements often contain errors and some measurements might be missing, the raw signals often need to be preprocessed before reliable inferences can be made.

In order to implement cost minimized search, parallel searching is used. In this technique, multi - mobile agents are used to retrieve information from different servers in parallel and the response will be sent back to the requested user.

FIG. 4.1 PARALLEL SEARCHING – AGENTS

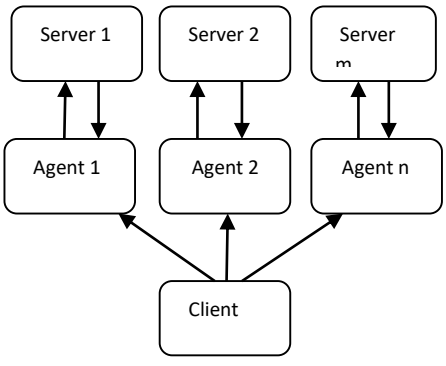


FIG. 4.2 PHASES OF QUERY PROCESSING

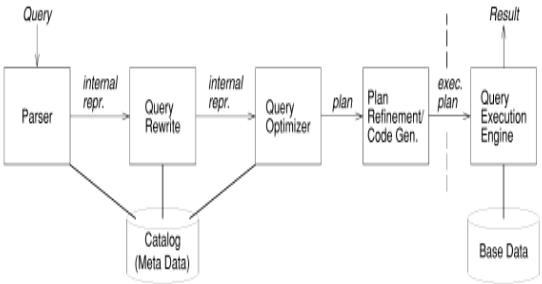


Fig 4.1 illustrates that the search query requested through client will be send to multiple mobile agents which will parallel search from different servers and send the result back to the client and hence perform cost minimized search.

Parser. In the first phase, the query is parsed and translated into an internal representation that can be easily processed by the later phases. The same parser can be used for a centralized and distributed database system.

Query Rewrite. Query rewrite transforms a query in order to carry out optimizations that are good regardless of the physical state of the system (example, the size of tables, presence of indices, locations of copies of tables, speed of machines, etc.). Typical transformations are the elimination of redundant predicates, simplification of expressions, and nesting of sub queries and views.

Query Optimizer. This component carries out optimizations that depend on the physical state of the system. The optimizer decides which indices to use to execute a query, which methods (example, hashing or sorting) to use to execute the operations of a query (example, join and group-by), and in which order to execute the operations of a query. The query optimizer also decides how much main memory to allocate for the execution of each operation.

Plan. A plan specifies precisely how the query is to be executed. Probably every database system represents plans in the same way: as trees. The nodes of a plan are operators, and every operator carries out one particular operation (example, join, group by, sort, scan, etc.).

Plan Refinement/Code Generation. This component transforms the plan produced by the optimizer into an executable plan. In some systems, plan refinement also involves carrying out simple optimizations which are not carried out by the query optimizer in order to simplify the implementation of the query optimizer.

Query Execution Engine. This component provides generic implementations for every operator. All state-of-the-art query execution engines are based on an iterator's model. In such a model, operators are implemented as iterator's and all iterator's have the same interface. As a result, any two iterators' can be plugged together, and thus, any plan can be executed.

Catalog. The catalog stores all the information needed in order to parse, rewrite, and optimize a query. It maintains the schema of the database (i.e., definitions of tables, views, user-defined types and functions, etc.).

It should be noted that the architecture shown in Fig. 4.2 and described in this subsection is not the only possible way to process queries. There is no such thing as a perfect query processor. An alternative architecture has, for example, been developed.

In that architecture, query rewrite and query optimization are carried out in one phase. Furthermore, there have been proposals to optimize a set of queries rather than individual queries.

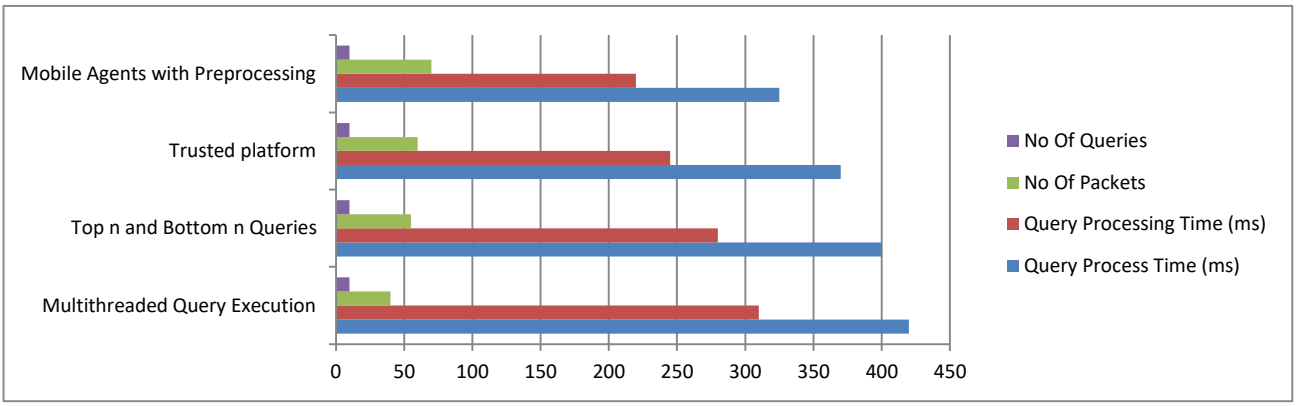
5. RESULT AND DISCUSSION

The aim of performance evaluation is to evaluate the effectiveness of each of the proposed techniques described in this thesis. The analytical models presented in the previous section analyze the elements of each processing component. These models are then incorporated into a simulation model, and the results of our simulation experimentations are presented in the following sections.

The grouped results based on the three key contributions in this thesis, which include Multithreaded Query Execution, Top n and Bottom n queries, trusted platforms and it is compared with Mobile Agent Preprocessing. In the simulation, the analytical models presented earlier are incorporated, to simulate the record and processing distribution. In the experimentations, it is particularly focus on process time, number of packets to be sent and number of queries to be sent. The results are presented as Fig. 4.1. which depicts the comparison chart of the four techniques that is used in the thesis, where Multithreaded Query Execution, Top n and Bottom n queries, trusted platforms provides a lower percentage of result when compared to the Mobile Agent Preprocessing.

GRAPHICAL PATTERN

FIG. 5.1 COMPARISON OF FOUR METHODS



There are three constraints that are measured with the same number of queries. They are:

1. Query process time
2. Query Response time
3. Number of packets

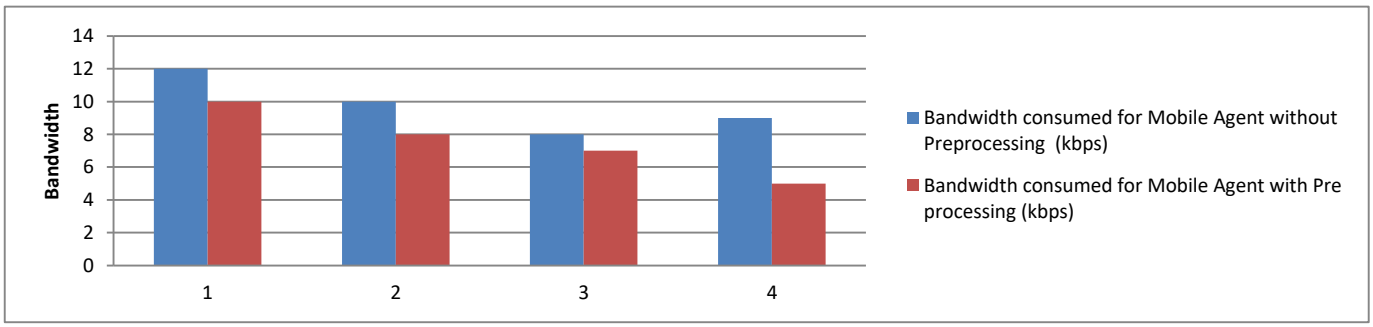
TABLE 5.1: COMPARISON OF ALL THE METHODS

Methods	Multithread query Execution	Top n and Bottom n Queries	Trusted platform	Mobile Agents with Preprocessing
Query Process Time (ms)	420	400	370	325
Query Processing Time (ms)	310	280	245	220
No Of Packets	40	55	60	70
No Of Queries	10	10	10	10

All the three parameters produced a positive result, when compared with the existing techniques.

From the table 5.1, the number of queries sent to the server is kept fixed, so that this parameter is used to measure all the remaining above three parameters. The query process time for the multi-threaded query execution is 420ms whereas the top n and bottom n queries are 400ms which is considerably reduced in the mobile agent preprocessing which is 325ms. But it in individual trusted platform technique, it is 370ms. Another measure is query response time, where the query taken to respond to the central server after retrieving the data from the database, which will vary from the trusted platform to that of the mobile agent preprocessing. Similarly, the number of packets to be sent also varies from query execution techniques to mobile agent preprocessing.

FIG. 5.2: COMPARISON OF BANDWIDTH



From fig.5.2, comparison of bandwidth for mobile agent with and without query processing is done for a fixed number of packets that is to be sent from sender to the receiver. From Table 5.2, the packets that is to be sent is 10 and the bandwidth differs for all the techniques and the mobile agent preprocessing consumes a

low bandwidth of 5 kbps when compared to all the above techniques, the main advantage is that, the mobile agent server stores the retrieved data from the concerned servers for a particular TTL, so that it need not fetch the particular data once again, while the request is being generated for the second time.

TABLE 5.2: COMPARISON OF BANDWIDTH WITH AND WITHOUT QUERY PROCESSING OF MOBILE AGENTS FOR A FIXED NUMBER OF PACKETS

No of Packets	Bandwidth consumed for Mobile Agent without Preprocessing (kbps)	Bandwidth consumed for Mobile Agent with Preprocessing (kbps)
10	12	10
10	10	8
10	8	7
10	9	5

6. CONCLUSION

The agents are secluded from routing to malicious host. Also the retrieved data so far will be returned back to the requesting client once the malevolent host is detected. With several advances, the mobile agents will be an important ingredient in producing secure, flexible distributed systems. Also it is focused on a specific part of the overall architecture, which supports distributed preprocessing in ubiquitous environments. In addition, we have also included details about the sensing mechanisms of the agents.

The recital chart produces a better result, when compared to the existing techniques and the bandwidth is also measured for the four techniques. With these features, the recital measure of the mobile agent preprocessing system is much better when compared with the existing techniques.

The use of mobile agent can lead to huge communication savings. As a future work, this model can be further extended for dynamic query updating on the mobile agent query processing server and online purchasing system can be developed on a single web page, with security concern and we are planning to use mobile agent to answer semantic queries in mobile scenarios. In addition, it is also necessary in order to find out how well economic models and data dissemination models work for large-scale query processing.

Further research is necessary in order to find out how well it works for large-scale query processing. Furthermore, it is necessary that the mobile agents should be secluded from multiple malicious hosts that try to modify the data at a point of time.

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GLOBALIZATION OF MARKETS AND STRATEGIES ADOPTED BY DEVELOPING NATIONS

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ABSTRACT

Since the 80's, the world economy has become increasingly "connected" and "integrated"; on the one hand the decreasing transportation costs and the diffusion of Information and Communication Technologies have implied a fast downgrading of the concept of "distance", while – on the other hand – gross trade, Foreign Direct Investment (FDI), capital flows and technology transfers have risen significantly. In most developing countries, the current wave of "globalization" has been accompanied by increasing concern about its impact in terms of employment and income distribution. Globalization is a process of global economic, political and cultural integration. It has made the world become a small village; the borders have been broken down between countries. Globalization is playing an increasingly important role in the developing countries. It can be seen that, globalization has certain advantages such as economic processes, technological developments, political influences, health systems, social and natural environment factors. Globalization has created a new opportunity for developing countries. Such as, technology transfer holds out promise, greater opportunities to access developed countries markets, growth and improved productivity and living standards. However, it is not true that all effects of this phenomenon are positive. Because globalization has also brought up new challenges such as, environmental deteriorations, instability in commercial and financial markets, increase inequity across and within nations.

KEYWORDS

competition, globalization, strategic advantage, transition economies.

INTRODUCTION

Globalization of markets is one of the most fascinating developments of this century. Its impact on economic transactions, processes, institutions, and players is dramatic and wide ranging. It challenges established norms and behaviour and requires different mindsets. Yet, it creates opportunities for the well prepared participants who can be proactive and visionary.[1] Globalization of markets involves the growing interdependency among the economies of the world; multinational nature of sourcing, manufacturing, trading, and investment activities; increasing frequency of cross-border transactions and financing; and heightened intensity of competition among a larger number of players.

This phenomenon has been fuelled by advances in communication and transportation technologies, the spread of economic growth and wealth around the world, the loosening of barriers to trade, and the formation of regional economic blocs. Development of new technologies and the proliferation of new products also contribute to the globalization of markets. Simply consider the following industries which came into existence only in the last decade: medical imaging, biotechnology, composite materials, robotics, and process innovations. Gaining momentum, the globalization of markets has led to the formation of irreversible economic linkages among countries. It has also shifted the focus away from the nation-state, and more toward industry and the individual enterprise.

STRATEGIC ADVANTAGES TO DEVELOPING NATIONS

1. INNOVATION IN THE CONTEXT OF DEVELOPING COUNTRIES

Innovation in the context of developing countries is not so much a matter of pushing back the frontier of global knowledge, but more the challenge of facilitating the first use of new technology in the domestic context. Innovations should be considered broadly as improved products, processes, and business or organizational models. Development strategists ought to think not only of R&D and the creation of knowledge, but also attend to the details of its acquisition, adaptation, dissemination, and use in diversified local settings. It is useful to review what is involved in each of these five activities as this taxonomy will help structure the analysis of the most appropriate policies, institutions and capabilities necessary to increase innovation in the broad sense suggested here.

2. THE CREATION, ACQUISITION, ADAPTATION, DISSEMINATION, AND USE OF KNOWLEDGE IN DEVELOPING COUNTRIES

The creation of knowledge is the process of inventive activity. It is usually the result of explicit research and development effort normally carried out by scientists and engineers. The key institutions involved in the creation of knowledge are public R&D laboratories, universities, and private R&D centres. However, not all creation of knowledge is the result of formal R&D effort. Sometimes inventions come from the experience of production, or through informal trial and error; sometimes they come from serendipitous insight. Notably, the multiple origination of knowledge raises a measurement problem because not all R&D activity results in an invention, and not all inventions come from formal R&D activity. Nonetheless, various proxies are available to track knowledge, R&D effort, and their interconnections. Accordingly, the most standard proxies will be applied as needed in the following discussion. For countries behind the technological frontier, acquisition of existing knowledge may be expected to yield higher increases in productivity than would flow from a similar scale investment in R&D or other efforts to push back the technological frontier. There are many means of technology transfer for private goods. Direct foreign investment, licensing, technical assistance, importation of technology as embodied in capital goods, components or products, copying and reverse engineering, and foreign study are the key channels. Also, more generally, easy communication allows access to technical information in printed or electronic form, especially including what can be accessed through the internet. Proprietary technology is usually sold or transferred on a contractual basis. But even proprietary technology may leak out depending on the strength of the Intellectual Property Rights (IPR) regime and its enforcement, and the reverse engineering capacity of users. However, despite significant proprietary constraints, much of the most useful technology is in the public domain or is owned by governments who could potentially put it in the public domain. As such, the key challenges for Technology, Globalization, and International Competitiveness development strategy are less about the creation and acquisition process and more often related to the challenges of delivering technology and knowledge to those who need it. Technologies often must undergo adaptation to be applicable in specific local conditions. This need is particularly clear in agriculture, where new technologies such as hybrid seeds are very sensitive to specific local conditions. To meet local needs, further research and experimentation is often required to adapt general agriculture solutions to specific temperature, soil, and water conditions as well as local pests. To a lesser extent, even industrial technologies have to be adapted to local conditions: access to raw materials, sources of power, labour traditions, various standards, and climate are just some of the local idiosyncrasies that leave their mark on industry. And yet, often the skills necessary to adapt technologies to local conditions are not too dissimilar from those necessary to create new technology. Similar to knowledge creation, adaptation also

requires research and experimentation. In the private sector, the dissemination of knowledge happens when enterprises expand, sell, or transfer their knowledge, or when other firms or organizations imitate or replicate the knowledge others have created. The efficient dissemination of knowledge requires appropriate mechanisms to educate potential users in the benefits of the related technology, often a process inclusive of broad educational advance, not just the provision of technical information.

Much dissemination also occurs through the sale of new machinery or other inputs that embody a new technology. There are also specialized institutions, such as agricultural research and extension systems, productivity organizations, and consulting firms that specialize in helping disseminate technologies. These efforts usually involve explicit training, demonstration projects, or technical assistance on how to use the technology. To use new technologies usually requires literacy as well as specialized training. Also, beyond education, using new technology often requires access to complementary inputs and supporting industries, and access to finance for new equipment, inputs or purchase of the technology license. When it involves starting a new business, it is important to have a supportive regulatory environment, namely one without excessive red tape, but which at the same time has a strong rule of law, respects private property, and facilitates the enforcement of contracts. At the broadest level, knowledge use also requires macroeconomic stability and good governance. In short, it requires a well developed economic and institutional regime. Countries have followed different strategies in how they created, acquired, adapted, disseminated or used knowledge for their development. Most countries that are behind the global technological frontier can take advantage of acquiring knowledge that already exists elsewhere in the world and adapting it for use in their local settings. This is most often done through trade and through formal technology transfer agreements. Foreign technology owners are not always willing to license their cutting edge technology. Some countries explicitly try to attract foreign investors to bring their advanced foreign technology to their countries, while others do not. In addition, not all countries that have put in place foreign investment promotion policies have met with success. Countries have sometimes preferred to develop their own technology, rather than to rely (primarily) on foreign technology.

3. MORE EFFICIENT MARKETS

Efficient markets should be what every economy strives for. Essentially, the sign of an efficient market is where there is an equilibrium between what buyers are willing to pay for a good or service and what sellers are willing to sell for a good or service. If you can improve the way you produce a good or service by doing things such as outsourcing certain processes or buying from an overseas supplier that offers discounts, you can then afford to lower your selling price which results in increased demand and affordability. Even if businesses don't lower prices, they can make additional profits and then reallocate that excess profit into doing things like increasing wages, taking on more investments or even creating more expansion projects.

4. INCREASED COMPETITION

Anytime that you have multiple producers competing for a hold of the economy, that's a good sign for consumers, as the quality of goods and services often goes up as a result. When businesses started to venture across international borders, what they often did was introduce a new standard into the global marketplace. Consumers then had more options to choose from. With more competitors to fight over market share, each company has to constantly look to improve their goods or services or create more value for their customers. This means better products and sometimes lower prices, which is always a good thing for buyers.

5. MORE WEALTH EQUALITY THROUGHOUT THE WORLD

Although citizens of developed nations like America contend that their standard of living has gone down because of globalization, the flip side to this is that hundreds of thousands of people around the world now have jobs, have started their own businesses and can provide comfort for their families. Globalization may have stopped you from buying another flat screen TV, but it also helped countless people in developing countries put food on their table for their families.

STRATEGIES IN THE 21ST CENTURY

In Thomas Friedman's landmark book *The World is Flat* he explains how companies in the developing regions of India and China are becoming part of large global supply chains that extend across oceans. David Barnes, chief information officer of UPS, commenting on Friedman's book in a November 2006 issue of the Financial Times, said that by 2010, companies will no longer compete against companies. Rather, in this new environment, supply chains will compete against supply chains. He emphasized that in the past the competitive advantage of a company's supply chain was undervalued. Companies competed on products and services, not processes. But the intensity of global competition and the increased commoditization is forcing companies to compete on the strength of their supply chains. In short, having the greatest product at the lowest price is only valuable if it gets to the intended customer before the competition.

The impact of globalization has yet to be fully realized, but one thing is clear: the business rules for engagement will never be the same. Companies can no longer go it alone and expect success. It requires collaboration. Teaming with the right partners is essential to increase speed, promote innovation and gain market share. Executives across different industries are asking many of the same questions:

- How do I expand business in high-growth and emerging markets around the globe?
- Should I build manufacturing centers close to end markets or partner with companies that have existing infrastructure?
- How do I factor in fast-changing customer expectations by region, by country and create an effective supply chain to meet customer needs?
- How do I optimize my supply chain to achieve the lowest total landed costs?
- How do I quickly respond to changes in the competitive landscape to thwart the threat of losing market share in a given sector or part of the globe?
- How do established international companies compete against fast, nimble, smaller competitors, not to mention aggressive multinationals?

Essentially, they are asking: In this business environment, what does it take to win?

The answer is as complex as it is simple. At the most fundamental level, it comes down to laser-like focus — determining what is core to your business and creating an effective network of strategic partnerships to manage what is non-core. It's an issue of determining how your company creates value for your customers. To create differentiation, companies are pursuing product innovation to enhance brands while building strong customer relationships by delivering improved service.

SUGGESTIONS/CONCLUSIONS

In order to respond effectively to challenges of the next phase of transition for upcoming economies, countries of the origin must continue with their structural reforms. Institutional strengthening and improved governance are expected to constitute the key elements of the next level of transition. At a more operational level, six segments of structural reforms have been identified as being particular importance for the second phase and there for the future of transition. They include:

- Changed role of the government; the process of transition does not imply mean withdrawal of the state from directing economic activity. What transition means is to transform the role of the state so that it will become supportive to markets and to provide PVT sector development.
- Continuation of enterprise sector reforms; Reform of the enterprise sector will continue to be at the heart of transition process and this relates to both, to the entry and growth of new private firms as well as for the restructuring of privatized and state owned companies.
- Enforcing of financial sector reforms; In spite of significant achievements in this area over the last decade, the financial sector specifically in transition economies, is still far below the efficiency level of financial institutions in industrialized countries. Major areas requiring attention are competition enhancement, improvement of the regulatory environment and strengthening of the supervision.
- Human Resource Development; if countries in transition would like to increase international competitiveness of their economies, they will have to significantly strengthen their human resource capabilities. This implies that education, Skill expertise and rehabilitation of R&D capacities will have to get much more prominent place in the phase of transition.
- Improvement of physical infrastructure; In order to address the problem of inadequate physical infrastructure, transition economies have been faced with large needs of building new infrastructure networks and replacing the existing old technology.

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A FIRM'S PERSPECTIVE OF NON-FINANCIAL REPORTING

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ABSTRACT

This paper reviews some of the important papers on Non-Financial Reporting and tries to explain why non-financial reporting is becoming part of usual reporting. In first part of this review, we have gone through some important research papers which relate to the importance of non-financial reporting. The second part of this paper we have given some relevant theories which explains why non-financial reporting is becoming as important as financial reporting. It is seen that in order to satisfy all the stakeholders, reporting of non-financial information is necessary. Such information has become more valuable over the years as the concept of corporate responsibility has been accepted by all the stakeholders.

KEYWORDS

non-financial reporting, non-financial information and non-financial accounting.

1. INTRODUCTION

The value-relevance of non-financial information has increased markedly over the last several years. Most top executives at large multinational firms believe that non-financial performance measures are more valuable than traditional financial measures in assessing long-term value (PricewaterhouseCoopers, 2002). This shift in information preferences has stimulated a substantial increase in the volume of non-financial information conveyed by firms to their stakeholders and other market participants.

Thus, current mandated financial reporting does not give a complete picture of a firm and is too short-term in orientation (Holder-Webb et al. 2008, 2009; Simnett et al. 2009a). In a world where the market value of the firm is decoupled from the value of its underlying assets, non-financial information offers a tool for measuring the firm value arising from intangibles and future cash flows that is missing from traditional financial reports (Lev 2001).

Given the limitations of historical financial information, an important question arises about what other information is of benefit to potential stakeholders. In a study, Cohen et al. (2011) found that retail investors were most concerned with non-financial disclosures that more directly affected future earnings such as the disclosure of leading economic indicators. In a recent review of developments on the integration of financial and non-financial information, Adams et al. (2011) argue that, "Integrated reporting is a means to providing a more coherent, balanced and complete picture of company performance, centred around strategic objectives and business models, and sensitive to the multiple drivers of value for today's businesses."

We can classify non-financial disclosures into two compartments namely economic and non-economic indicators. Economic indicators here mean the metrics which directly relates to performance of the business like market share, quality rankings, customer satisfaction, employee satisfaction, turnover and innovation etc. While, non-economic indicators are those metrics, which are not directly related to the business of the reporting entity like expenditure on environment, CSR undertaken expense on employees' betterment etc. Firms are keeping their stakeholders informed about both the indicators. But with the growth in demand of responsibly produced and fairly traded goods the focus has been shifted towards non-economic indicators.

Corporate social responsibility (CSR) activity is an area of intense and increasing interest both on the practice and academic fronts. Assets under professional management and invested with a social responsibility focus have also grown dramatically over the last ten years. Investors choosing social responsibility investment strategies require access to information which is not just provided through traditional financial statements and analyses. At the same time, a group of mainstream institutional investors has encouraged a movement to incorporate environmental, social, and governance information into equity analysis, and multi-stakeholder groups have supported enhanced business reporting on these issues.

Investors are not the only interested parties; CSR activity provides an increasing focus of product development and marketing practitioners. Research demonstrates that certain types of CSR activity produce value for firms in terms of brand loyalty and marketing advantages (Brown and Dacin 1997; Sen and Bhattacharya 2001). As Handleman and Arnold (1999, p. 36) note, "In any community, it is common to find retailers donating to local charities, sponsoring little league sports teams, and proudly displaying the national flag. These actions demonstrate the retailer's adherence to unwritten but powerful normative rules of acceptable social conduct, such as becoming involved with the community and promoting national pride."

According to the SIF, "issues now occupying mainstream consciousness – corporate governance, transparency, accountability, and greater disclosure – have long been central to the practice of social investing." In this study, we tried to found out the effects of certain type of social and environmental expenditures on the market capitalisation of top 200 firms listed on national stock exchange during the period of 2011-12 and 2012-13.

The next section presents literature review. In section 3, we review some relevant theories and some earlier studies to present a conceptual framework and answer the 'Why' of non-financial reporting. In the following section, we conclude our review of theories.

2. LITERATURE REVIEW

The historical emphasis of traditional financial information does not answer the needs of stakeholders, who require information not only about future earnings but also about the firm's social and environmental responsibility and interactions with the environment and home communities (Adams 2004; Anderson et al. 2005).

The historical focus of financial reporting provides an incomplete picture of a firm's current status to auditors, investors, and creditors and has limited relevance for evaluating future prospects (Lev and Zarowin 1999; Lev 2001; Graham et al. 2005). Cohen et al. (2000) demonstrate that the efficiency and effectiveness of audits is improved through auditor use of non-financial information. However, the backward-looking financials are subjected to assurance services, are standardized among firms by GAAP, and possesses the currency of long use by external parties; thus stakeholders may over-rely on financial information that does not fully reflect the sources of value of a business. These issues with the historical and financial approach to disclosure are well known to the regulatory and investing community. Disclosure of non-financial information is essential to reduce the information asymmetry that exists between management and important stakeholders (Narayanan et al.2000). Providing non-financial information allows investors to better assess key areas of performance and supports a broader view of corporate performance that also encompasses society at large (Holder-Webb et al. 2009). These insights are not new – the role of intangibles such as quality of management in corporate success has a long history in the literature (Trueman 1986) – but they do point to a crucial question raised by critics of the current reporting system. What is the most effective way of informing stakeholders of those elements of business performance that do not show up on the financial statements?

A number of recent initiatives designed to encourage the integration of financial and non-financial metrics in an integrated reporting framework have arisen over the past decade. For example, the Global Reporting Initiative (GRI) (2011) provides guidelines for presenting a sustainability report that emphasizes evaluating a company by its ability to promote sustainable growth that is also cognizant of environmental, social, and governance metrics. Adams et al. (2011) argue that three major differences between integrated reporting and traditional reporting are "incorporating a variety of financial and non-financial metrics and their interlinkages; capturing a longer-term perspective; and providing a better reflection of company strategy."

This begs the question of what metrics allow external users to evaluate a company's viability and the company's value proposition effectively. We classify non-financial indicators into two broad categories namely economic and non-economic metrics. Economic metrics focuses on the information which tells about the performance of the firm in its business. On the other hand, non-economic metrics are those which informs about the firm's involvement in other important areas like environment, society, social welfare etc. Recently investors and other stakeholders have shown more interest towards non-economic indicators rather than economic non-financial indicators. Corporate social responsibility (CSR) activity is an area of intense and increasing interest both on the practice and academic fronts. Due to this shift in the preference of information it is necessary for the firms to give such information to their stakeholders.

3. CONCEPTUAL FRAMEWORK

The choice of broad theoretical framework depends on whether the researcher approaches the question of CSR from an economic or an ethical standpoint (Cetindamar and Husoy, 2007). Ethical theories indicate that these activities should be promoted because they are the "right thing" to do. Economic theories indicate that these activities should be promoted only to the degree that they create shareholder wealth through increasing profit. Virtually all theoretical approaches carry the implication that it is not enough to partake of a CSR action, it is necessary then to disseminate information about the action that has been taken. A matter of significant difference between the theories pertains to what actions should be taken, and who should be informed of them. To some extent, the answer to the first drives the answer to the second: if the primary goal of the activity is to enlist the support of a particular party, the firm will of necessity publicize the activity through channels likely to reach that party. Therefore, we should look into different theories which offer a brief overview of the "why" of CSR activity.

NEO-CLASSICAL ECONOMICS

Bird et al. (2007) adopt a traditional economic approach to the question, suggesting that managers should apply net present value (NPV) analysis to all potential CSR activities and take only the actions that result in a positive NPV and thus, increase shareholder wealth. An important element of this theory in the CSR context is the neo-classical notion that the shareholder is the only stakeholder of significant interest. A problematic issue for the traditional neo-classical approach to CSR is that unlike production decisions, CSR activities and their outcomes may not yield the mathematical tractability necessary for reliable NPV analysis.

MARKETING STRATEGY

Another stream of inquiry that suggests that CSR may be motivated mainly by wealth concerns is found in the marketing literature. Brown and Dacin (1997) provide empirical evidence that consumer beliefs about products are influenced by the information that they possess both about corporate ability (the producer's competitive advantage) and about the producer's corporate social responsibility, even though the CSR policies are often unrelated to the company's ability to produce. Both items are key elements in creating a good corporate reputation, posited by numerous theorists to provide a source of economic benefits to an organization. Brown and Dacin (1997) find that negative CSR perceptions are shown to exert negative effects on consumer behavior, while positive CSR perceptions exert positive effects on consumer behavior. Handelman and Arnold (1999) provide further evidence on wealth creation through marketing activities subsumed under CSR. They suggest that consumers appear to possess a demand for intangible factors indicating congruence with local social norms and values, and that the firm's promotion of these elements may yield a strategic angle equal to that of competitive positioning and product attributes. The marketing-oriented literature on CSR activity suggests these actions are a strategic tool to build and maintain customer loyalty and market share. The implications for disclosure are that the primary targets for information are the existing customers and members of the public with a general interest and that the content of the disclosure will be chosen to emphasize congruence with customer values.

POLITICAL ECONOMY

A third theoretical approach considers these actions through the lens of the political economy. In this approach the firm is not considered to be an economic entity that can be divorced from its social context; it is instead an organic organism that is a party to a social contract with the other members of its context. In order for the firm to survive, it must obtain the support and approval of its stakeholders, whether those be primary stakeholders (those without whose support the firm cannot function at all, including customers, suppliers, or providers of labor and capital) or secondary stakeholders (who are indirectly affiliated but in a position to significantly influence the firm's success, including regulators and media) (Clarkson, 1995).

Under this general heading, researchers have variously advanced theoretical arguments based on stakeholder theory (Clarkson,1995; Hooghiemstra, 2000; Maignan and Ralston 2002) and on legitimation (i.e., Gray et al. 1995a; Campbell 2000) to explain both CSR activities and disclosure.

Legitimation pertains to efforts on the part of the firm to establish, maintain, or repair public perception of its dedication to stakeholder norms and values, thus evincing respect for the "social contract" that permits it access to capital and labor markets and other economic resources necessary to ensure organizational survival. Dowling and Pfeffer (1975) outline three means to establishing or improving legitimacy: adapting operations to conform to existing societal expectations, altering social definitions to conform to existing firm operations; or engaging in communication to promote its public identification with socially legitimate symbols, values, and institutions. The degree to which the organization is visible and/or relies on social and political support drives the concern for legitimacy.

Closely related to legitimacy theory is stakeholder theory. Balmer et al. (2007) elaborate upon this view, stating that "…in contrast to the traditional legal/economic perspective, which disregards all non-marketplace interaction and avows that the corporation's sole responsibility is to maximize its shareholders' wealth, stakeholder theory takes a more pragmatic stance that sees shareholders as one among multiple contributors to the firm" and that this view indicates that management has a moral obligation to all contributors, not only the shareholders. Therefore, regardless of the motivation of an individual firm, the observable output is likely to be very similar: promoting a variety of CSR activities, and ensuring that the target population is kept apprised of this behavior.

INSTITUTIONAL THEORY

The recent upsurge in interest in CSR activities on the part of investors and customers raises the specter of yet another theoretical standpoint: institutional theory. Institutional theory suggests a process of organizational convergence. The isomorphic argument possesses implications both for CSR action and disclosure: to the extent that managers of contemporary organizations have been inculcated with the belief that CSR activity is necessary (for purposes of adding to market share, incrementing stockholder wealth, or for straightforward ethical principles) it is possible that the surge in this type of activity – and related disclosure – represents a form of normative isomorphism. To the extent that the upsurge in such activity is perceived by managers to be a competitive requirement irrespective of the need to deploy ethical principles or to derive gains from specific sources, it may be mimetic. Institutional theory also proposes selective use of information dissemination to direct attention to desirable factors and to deflect it away from controversial or unacceptable activities (Meyer and Rowan 1977; Elsbach and Sutton 1992). This suggests that CSR disclosure may be deployed in an effort to forestall undesirable regulation, or to emphasize what the corporation is doing "well" while downplaying what it is not. However, in an environment where CSR activity and disclosures are part of the accepted norm, the predictions of institutional theory converge with those discussed above: CSR activity will be undertaken and disclosed by any firms requiring the appearance of legitimacy as per political economy theory.

SHAREHOLDER DEMANDS AND INTANGIBLE ASSETS

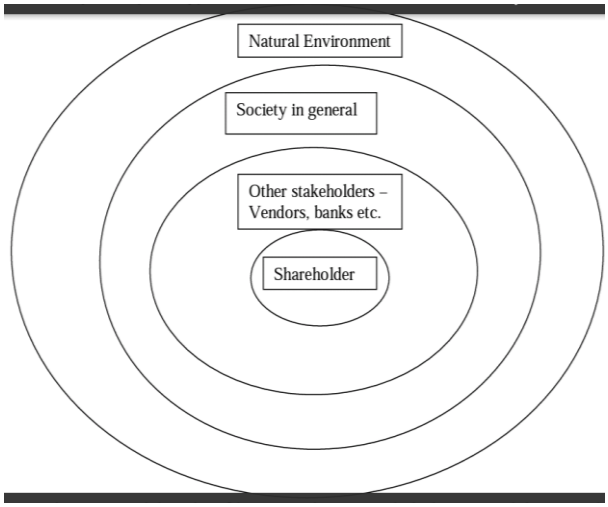
An additional stimulus for disclosure may be categorized as a pragmatic management response to a demand situation. The intense growth in SRI assets suggests an increasing demand for CSR disclosures (and presumably, for CSR actions); these disclosures may be a simple response to the information needs of shareholders. Financial data is historical in nature and yields a limited perspective of the firm, insufficient to permit a sophisticated understanding of the firm's future prospects. A majority of top executives at multinational firms believe that non-financial performance measures outweigh financial performance measures in terms of creating long-term shareholder value (PricewaterhouseCoopers 2002).

While these concerns are relevant to the interests of all equity holders, they are of particular import to SRI investors. SRI investing does not disregard rigorous financial analysis; it simply adds to that analysis a consideration of the social and environmental consequences of the investments, such as environmental, health and safety, diversity, and human resources issues. Traditional financial statements are not adequate to supply the informational needs indicated by this type of investing activity. Many international companies have therefore responded by providing a variety of CSR disclosures.

This concept arises out of Murty (2007) which has laid down the fundamental basis of business ethics and corporate responsibility. It is argued that business ethics and corporate responsibility are two sides of same coin Murty (2007) has shown that corporate responsibility consist of environmental accounting, corporate governance, corporate social responsibility. This study talks about the paradigm shift in the philosophy of business from just concerned with their businesses to a

broader approach which takes into account the environment in which the businesses operate. The new perspective has broken down the compartmentalization of business and society and it has been realized that social and environmental issues can no longer be addressed entirely through a unilateral imposition by the State through a legal framework. In the light of this new development, the business had to gear itself to rethink to develop new theories and practices of management to align itself with this breakdown. Besides this, the phenomena of a rapid decline in the role of the State and withdrawal of the State from the social space have created a vacuum. As the needs of the society and the imbalances in the society have not changed and therefore business has to emerge as the filler. The roles, relationships and realms of the three entities – the government, the business and the society have changed. The first implication is that this imposes a corporate responsibility of businesses towards society. This is indicative of a paradigm shift in the philosophy of business.

FIGURE 1: CORPORATE RESPONSIBILITY OF BUSINESSES TOWARDS SOCIETY



Earlier businesses could be formed and could operate successfully without including in their conduct anything that is a concern of society, beyond what is valued, created and delivered through the market. It was assumed that any responsibility that business had towards society is duly discharged through the market mechanism. Services, goods, raw materials and other resources that are drawn by business from society are adequately recompensed by the price established by the price mechanism. But with shift the philosophy of business which gives equal importance to society, in which it performs, and understand its responsibility towards society.

4. CONCLUSIONS

The reporting of non-financial information is gaining acceptance as the theories predict that in order to survive in the society the business have to consider the need of all the stakeholders which are affected by the actions of the business. Some of the other theories says that reporting of such information can only be there if a firm indulge in such activities and it would give a firm advantage over other firms and it can be a marketing strategy of the firm. But all the theories presented the view that reporting of such information cannot be ignored and if the business fails to report such information then the business will cease to exist sooner or later.

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A REVIEW ON NETWORK SECURITY AND CRYPTOGRAPHY

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ABSTRACT

With the emergence of internet data Security has become critical for every sector since data is at the core of any organization. Moreover, as we are heading towards the age of digitization large amount of data is produced and transferred across the world every day. So in order to protect it various mechanisms and algorithms have been developed. Cryptography is the practice and study of techniques for secure communication in the presence of third parties called adversaries. Modern cryptography is heavily based on mathematical theory, computer science, practice and engineering discipline. In this paper an attempt has been made to review various network security principles, types of security attacks and cryptographic concepts and to achieve the aforesaid the data have been collected from reports published in journals, articles, magazines, books and online sources.

KEYWORDS

cryptography, decryption, digitization, encryption, internet, network security.

1. INTRODUCTION

Internet has proved to be a boon providing fast exchange of information across the globe. At the same time, it has posed serious threats to data security like unauthorised access and later its misuse which can end up everything. In this era of cut throat competition data plays a vital role in the success of any organization. So, network security has become a major challenge for the organizations. **Network Security** is the protection of data while transmission over the network whereas **Cryptography** is about constructing and analyzing techniques to provide data security. Network security consists of developing and implementing policies by network administrator to prevent unauthorised access, misuse, manipulation, and disruption of services of network. There are various aspects of network security:

- CONFIDENTIALITY
- INTEGRITY
- AVAILABILITY

CONFIDENTIALITY- The principle of Confidentiality says that only authorised users i.e., the sender and the intended recipient should be able to access the message.
INTEGRITY- According to this principle, a message should be received by the receiver exactly in the same form as it was sent by the sender i.e. there should be no modification of the message in between.
AVAILABILITY-The principle of availability says that the message should be available to the recipient in proper time, when it is needed (without any delay).
These aspects of network security are central to cryptography. **Cryptography**, derived from Greek word 'Kryptos' ('hidden, Secret') is the science and art of transforming messages in order to make them secure and immune to attacks. Applications of cryptography include military communications, electronic commerce, ATM cards, and computer passwords. **Cryptanalysis** is the term used for the study of methods for decrypting the message without encryption details. The combined study of cryptography and cryptanalysis is called cryptology. ***Encryption*** is the process of converting ordinary information (called plaintext) into unintelligible text (called ciphertext).**Decryption** is the reverse, converting the unintelligible ciphertext back to plaintext. A ***cipher*** is a pair of algorithms that create the encryption and the reversing decryption. The detailed operation of a cipher is controlled both by the algorithm and in each instance by a "key". The **key** is a secret (ideally known only to the communicants), usually a short string of characters, which is input to the encryption and decryption algorithms.

2. SECURITY ATTACKS

2.1. PASSIVE ATTACKS- This type of attack does not involve any change or modification of the message. The attacker's objective is to just obtain the information. Passive attacks may not harm the system but disclosure of information may harm the sender or receiver of the message. Since this type of attack does not involve any modification of the message they are difficult to detect and are more harmful.

Types of passive attacks:

a) Traffic Analysis
b) Snooping

TRAFFIC ANALYSIS- It involves monitoring of the online traffic by the attacker to guess the pattern of the message. The communicating entities never know that their message is being monitored.
SNOOPING- It involves unauthorised access of the information by the attacker which may later be misused.
2.2. ACTIVE ATTACKS- This type of attacks involve modification of data and may harm the system. They are easier to detect as compared to passive attacks.
Types of Active attacks:

a. MODIFICATION
b. MASQUERADE
c. REPLAY
d. NON-REPUDIATION
e. DENIAL OF SERVICE (DOS)

MODIFICATION- Some portion of the message is modified or deleted or delayed, which may harm the system.
MASQUERADE- Here one entity impersonates some other entity. The attacker may send some false message to the receiver pretending to be the actual sender or may pretend to be the actual receiver and receive some confidential information.
REPLAY- The attacker simply captures the message for some time and later retransmits it, thereby creating an unauthorised effect.
NON-REPUDIATION- This type of attack involves either the sender or the receiver. The means that the sender after sending the message may deny that he sent the message or the receiver may refuse that he received any message.
DENIAL OF SERVICE (DOS) - It involves disruption of the services of the server and destroying the whole network by the attacker. For example, the attacker may send some bogus requests to slow down the network and create unnecessary traffic or may divert the requests made to the server to some other route so that users are devoid of the services of the system. It ultimately destroys the whole system.

3. CRYPTOGRAPHY ALGORITHMS

3.1. SYMMETRIC KEY (PRIVATE KEY) CRYPTOGRAPHY – In symmetric key cryptography (**SKC**) a single key which is called 'shared secret key' is used for both encryption and decryption.

TYPES OF SKC ALGORITHMS

3.1.1. DATA ENCRYPTION STANDARD (DES): It was quite popular in the early days. DES was proposed by IBM in 1970 and published in 1977 by NIST. The Data Encryption Standard is a block cipher, meaning a cryptographic key and algorithm are applied to a block of data simultaneously rather than one bit at a time. To encrypt a plaintext message, DES groups it into 64-bit blocks. Each block is enciphered using the 56 bits-secret key into a 64-bit ciphertext by means of permutation and substitution involving 16 rounds.

For any cipher, the most basic method of attack is a brute force, which involves trying each key until you find the right one. The length of the key determines the number of possible keys -- and hence the feasibility -- of this type of attack. Hence, it would take a maximum of 2^56, or 72,057,594,037,927,936, attempts to find the correct key. But many security experts felt the 56-bit key length was inadequate and messages encrypted using DES encryption are likely to be subjected to this kind of code-breaking effort. Even so, DES remained a trusted and widely used encryption algorithm through the mid-1990s. However, in 1998, a computer built by the Electronic Frontier Foundation (EFF) decrypted a DES-encoded message in 56 hours. So **National Institute of Standards and Technology (NIST)** in 2001 selected the **Advanced Encryption Standard (AES)** as a replacement for DES.

3.1.2 ADVANCED ENCRYPTION STANDARD (AES): AES is an SKC algorithm.It is a subset of the Rijndael cipher(ciphers with different key and block sizes) developed by two Belgian cryptographers, Vincent Rijmen and Joan Daemen, who submitted a proposal to NIST during the AES selection process. AES encrypts and decrypts a block size of 128 bits. It uses 10, 12, or 14 rounds. The key size which can be 128 or 192 or 256, depends on the number of rounds. AES has 3 different versions AES-128, AES-192 and AES-256 with 10, 12 and 14 rounds respectively. But the round key size is always 128 bits.

3.1.3. IDEA- Although less visible than DES, the International Data Encryption Algorithm (IDEA) has been classified by some of the contemporary cryptographers as the most secure and reliable block-algorithm. Like DES, IDEA encrypts data in 64-bit input blocks; for each it outputs corresponding 64-bit cipher block. It employs the same algorithm for encryption and decryption, with a change in the key schedule during encryption. Unlike DES, IDEA employs 128-bit secret key and dominantly uses operations from three algebraic groups: XOR, addition modulo 2^{16}, and multiplication modulo $2^{16}+1$. These operations are combined to make 8 computationally identical rounds followed by an output transformation resulting in the final ciphertext.

3.1.4. SAFER- SAFER stands for Secure and Fast Encryption Routine. It is a block cipher developed by Massey in 1993 for Cylink Corporation. It uses a 64 bit block size.

3.1.5. RIVEST CIPHERS (aka RON'S CODE): Named for Ron Rivest, a series of SKC algorithms.

RC1: Noted on paper, but not at all implemented.

RC2: A 64-bit block cipher using variable-sized keys intended to change DES.

RC3: Found to be breakable at some stage in development.

RC4: A stream cipher with variable-sized keys; it is broadly used in business cryptography products.

RC5: A block-cipher sustaining a variety of block sizes (32, 64, or 128 bits), key sizes, and quantity of encryption passes in excess of the data.

RC6: A 128-bit block cipher based upon, and an upgrading over, RC5;

3.1.6 BLOWFISH – It is an iterative block cipher developed by Bruce Schneier in 1993. This symmetric cipher splits messages into blocks of 64 bits and encrypts them individually. Blowfish can be found in software categories ranging from e-commerce platforms for securing payments to password management tools, where it used to protect passwords. It's definitely one of the more flexible encryption methods available.

3.2. ASYMMETRIC KEY CRYPTOGRAPHY (PUBLIC KEY) - As the name implies, it uses two different keys, public key and private key for encryption and decryption respectively.

3.2.1 RSA Algorithm- The most common public key algorithm is RSA named after its inventors Rivest, Shamir and Adleman. RSA uses 2 exponent e and d, where e is public and d is private.

The cipher text (say C) is calculated from plain text (say P) as:

$$C=P^e \bmod n$$

And, the reverse i.e. plain text (original message) is calculated as:

$$P=C^d \bmod n$$

The key generation procedure follows:

i. Select two primes p and q such that p ≠q
ii. Calculate n=p*q
iii. Calculate ϕ(n)=(p-1) * (q-1)
iv. Select e such that 1<e< ϕ(n) and GCD(e, ϕ(n))=1
v. Now calculate d such that ed mod ϕ(n)=1
vi. So our public key → (e, n) [TO BE ANNOUNCED PUBLICLY]
vii. And, our private key → d [TO BE KEPT SECRET]

3.2.2 RABIN Cryptosystem- Devised by M. Rabin, RABIN algorithm is a variation of the RSA algorithm in which e and d are fixed, e=2 and d=1/2.

The cipher text (say C) is calculated from plain text (say P) as:

$$C=P^2 \bmod n$$

And, the reverse i.e. plain text (original message) is calculated as:

$$P=C^{1/2} \bmod n$$

In RABIN Cryptosystem public key is n and private key is the tuple (p, q). Everyone can encrypt the message using n but only the receiver can decrypt the message using p and q.

The key generation procedure follows:

i. Select 2 large primes p and q in the form of 4k+3 and p ≠q
ii. Calculate n=p*q
iii. Public key → n
iv. Private key →(p, q)

To encrypt a message only the public key *n* is needed. To decrypt a ciphertext the factors *p* and *q* of *n* are necessary.

3.2.3 DIFFIE-HELLMAN KEY EXCHANGE – Diffie-Hellman key agreement algorithm is one of the earliest public-key protocols for securely exchanging cryptographic keys over a public channel. It was developed by Dr. Whitfield Diffie and Dr. Martin Hellman in 1976. It is not for encryption or decryption, but it enables two parties who are involved in communication to generate a secret key for exchanging information confidentially.

The working of Diffie-Hellman key agreement can be explained as below:

1) Two communicating entities P1 and P2 agree on two large integers a and b such that 1< a< b.

2) P1 then chooses a random number i and computes I = $(a)^i$ mod b. P1 sends I to P2.
3) P2 then chooses a random number j and computes J = $(a)^j$ mod b. P2 sends J to P1.
4) P1 computes k1 = $(J)^i$ mod b.
5) P2 computes k2 = $(I)^j$ mod b.
6) We have k1 = k2 = **$(a)^{ij}$ mod b** and thus k1 and k2 are the secret keys for secure transmission.

3.2.4. ELGAMAL CRYPTOSYSTEM

The ElGamal system is a public-key cryptosystem based on the discrete logarithm problem. It consists of both encryption and signature algorithms. The encryption algorithm is similar in nature to the Diffie-Hellman key exchange protocol.

The system parameters consist of a prime *p* and an integer *g*, whose powers modulo *p* generate a large number of elements, as in Diffie-Hellman. P1 has a private key *a* and a public key *y*, where ***y* = g^a (mod *p*).** Suppose P2 wishes to send a message *m* to P1. P2 first generates a random number *k* less than *p.* He then computes $y_1 = g^k \pmod p$ and $y_2 = m \text{ Xor } y^k$,

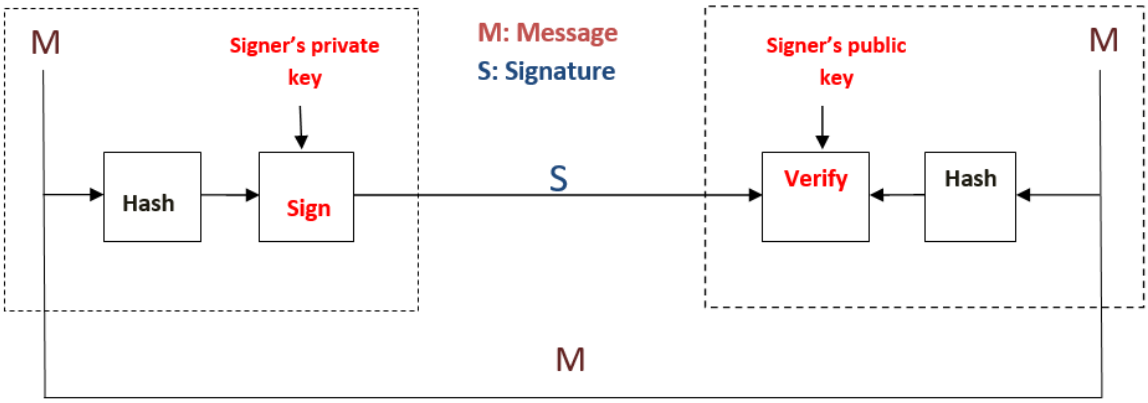
P2 sends **(y_1, y2)** to P1. Upon receiving the ciphertext, P1 computes

m = (y_1^a mod p) **Xor** y_2

3.2.5. ELLIPTIC CURVE CRYPTOGRAPHY (ECC) - ECC is an approach to public-key cryptography based on the algebraic structure of elliptic curves over finite fields. It is a public key algorithm that can be used to create faster, smaller, and more efficient cryptographic keys. ECC generates keys through the properties of the elliptic curve equation instead of the traditional method of generation as the product of very large prime numbers. The security level, which is given by RSA, can be provided even by smaller keys of ECC. For example, the 1024-bit security strength of an RSA could be offered by 163 bit security strength of ECC. Other than this, ECC is particularly well suited for wireless communications, like mobile phones and smart cards. EC point of multiplication operation is found to be computationally more efficient than RSA exponentiation

3.2.6. DIGITAL SIGNATURE STANDARD (DSS) - It is an FIPS (Federal Information Processing Standard) for digital signatures proposed by NIST in 1991. A digital signature is an electronic equivalent of a written signature; the digital signature can be used to provide assurance that the claimed signatory signed the information. In addition, a digital signature may be used to detect whether or not the information was modified after it was signed (i.e., to detect the integrity of the signed data). A digital signature algorithm includes a signature generation process and a signature verification process. The private key is used in the signature generation process and the public key is used in the signature verification process. For both the signature generation and verification processes, the message (i.e., the signed data) is converted to a fixed-length representation of the message by means of an approved hash function. Both the original message and the digital signature are made available to a verifier who can verify the signature with the signer's public key.

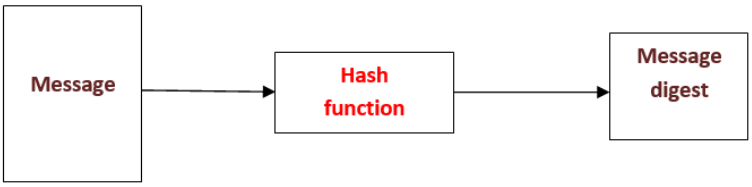
FIG. 1: DIGITAL SIGNATURE PROCESS



4. MESSAGE INTEGRITY AND AUTHENTICATION

4.1. CRYPTOGRAPHIC HASH FUNCTIONS – A Cryptographic Hash Function is an algorithm that creates a compressed image of the message called a message digest that can be used to check the integrity of the message.

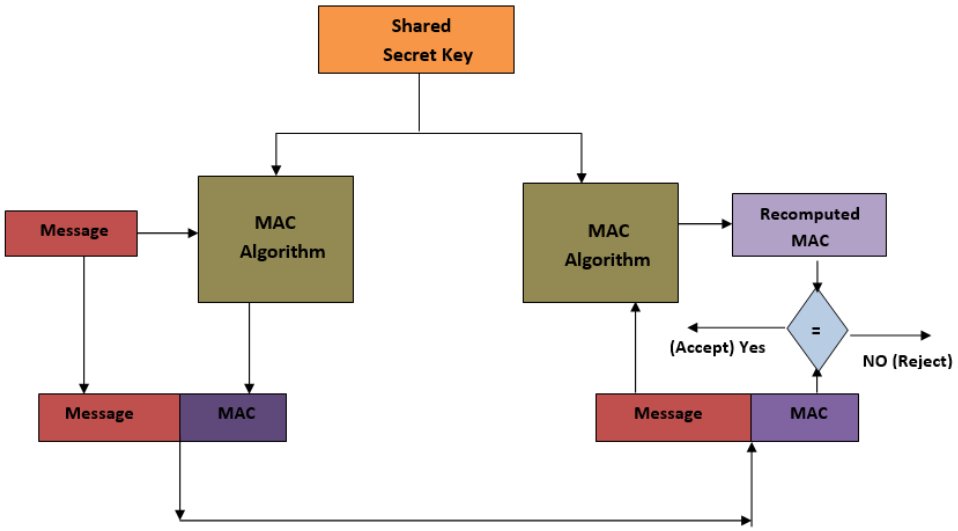
FIG. 2: MESSAGE DIGEST CREATED FROM MESSAGE



To check the integrity of the message, it is passed through **Cryptographic Hash Function**. The new digest is compared with the previous one. If both are same, that means the original message has not changed.

4.1.1. MESSAGE AUTHENTICATION CODE (MAC) - A message digest guarantees only integrity of the message. However, it does not authenticate the sender of the message. A message authentication code provides integrity as well as authentication of the message. The difference between a message digest and MAC is that the latter involves a secret between the communicating entities. A MAC is created by the passing the message, concatenated with the secret key through the hash function.

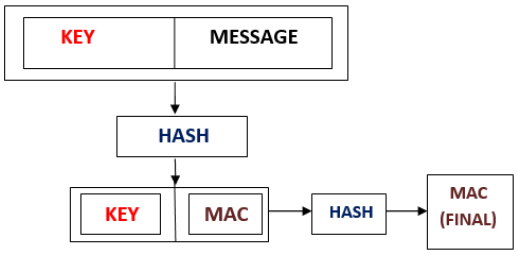
FIG. 3: MAC PROCESS



The receiver separates the message from MAC and creates a new MAC from the concatenation of the message and secret key. Then the newly computed MAC is compared with the MAC received along with the message. If the two MAC's matches, then the message is authentic and has not been modified by any intruder. The intruder cannot forge a new message to replace it since he doesn't possess the secret key between the communicating entities.

4.1.2. NESTED MAC- To improve the security of MAC nested MAC's were designed in which hashing is done in two steps. First the message, concatenated with the secret key is hashed to create message digest. The intermediate digest is again concatenated with the key and hashed to create the final digest.

FIG. 4: NESTED MAC



4.1.3. HASHED MESSAGE AUTHENTICATION CODE (HMAC)- NIST has issued a standard for nested MAC (FIPS 198) which is known as HMAC. It is more complex than nested MAC.

1. The message is divided into N blocks, each of b bits.
2. The secret key is left padded with 0's to create a b-bit key.
3. The key after padding is Ex-ored with a constant called i-pad (input pad) to create a bit block. The value of i-pad is b/8th repetition of the sequence 00110110.
4. The resulting block is prepended to the N-block message which results in N+ 1 blocks.
5. The result of step 4 is hashed to create an n-bit digest (intermediate HMAC).
6. The intermediate HMAC is left padded with zero's to create a b-bit block.
7. Steps 2 and 3 are repeated with a different constant opad (output pad). The value of opad is b/8th repetition of the sequence 01011100.
8. The result of step 7 is prepended to the block of step 6.
9. The result of step 8 is hashed with the same hashing algorithm to create the final n-bit HMAC.

4.1.4. CIPHER BASED MESSAGE AUTHENTICATION CODE (CMAC) - It is also a NIST defined standard (FIPS 113) called Data Authentication Algorithm, or CMAC. It is a block cipher-based message authentication code algorithm. It may be used to provide assurance of the authenticity and, hence, the integrity of binary data. This mode of operation fixes security deficiencies of CBC-MAC (CBC-MAC is secure only for fixed-length messages). To generate an ℓ-bit CMAC tag (t) of a message (m) using a b-bit block cipher (E) and a secret key (k), one first generates two b-bit sub-keys (k_1 and k_2) using the following algorithm:

Let $\ll$ denote the standard left-shift operator and $\oplus$ denote exclusive or:

1. Calculate a temporary value $k_0 = Ek\ (0)$
2. If msb $(k_0) = 0$, then $k_1 = k_0 \ll 1$, else $k_1 = (k_0 \ll 1) \oplus C$; where C is a certain constant that depends only on b. (Specifically, C is the non-leading coefficients of the lexicographically first irreducible degree-b binary polynomial with the minimal number of ones.
3. If msb $(k_1) = 0$, then $k_2 = k_1 \ll 1$, else $k_2 = (k_1 \ll 1) \oplus C$.
4. Return keys (k_1, k_2) for the MAC generation process.

The CMAC tag generation process is as follows:

1. Divide message into b-bit blocks $m = m_1 \| ... \| m_{n-1} \| m_n$ where $m_1,..., m_{n-1}$ are complete blocks. (The empty message is treated as 1 incomplete block.)
2. If m_n is a complete block then $m_n' = k_1 \oplus m_n$ else $m_n' = k_2 \oplus (m_n \| 10...0_2)$.
3. Let $c_0 = 00...0_2$.
4. For $i = 1,....., n-1$, calculate $c_i = E_k (c_{i-1} \oplus m_i)$.
5. $C_n = E_k(c_{n-1} \oplus m_n')$
6. Output $t = \text{msb}_\ell (c_n)$.

The verification process is as follows:

1. Use the above algorithm to generate the tag.
2. Check that the generated tag is equal to the received tag.

5. OTHER NETWORK SECURITY TECHNOLOGIES

5.1. FIREWALL- a firewall is a system or group of systems that enforces an access control policy between two networks. It can consist of hardware and software, or even several components working together. It is a single point of defence between two networks. The main function of a firewall is to centralize access control. A firewall serves as the gatekeeper between the untrusted Internet and the more trusted internal networks.

There are many ways to implement firewalls on today's corporate networks. Usually they can be thought of as two mechanisms: one that permits traffic and one that exists to block traffic. Firewalls are designed to protect your network from attacks originating from another network. An effective firewall will allow authorized access only to the protected network and deny access to those who don't have it. Some firewalls permit only email traffic through them, thereby protecting the network against any attacks other than those against the email service. Other firewalls provide less strict protections and block services that are known to be problems. A more effective firewall will allow users on the protected network to communicate freely with the outside world, as this is the reason a company connects its LAN to the Internet. If a company wants to monitor the types and amounts of traffic that are directed at its network, a firewall can effectively supply this information to the system administrator.

TYPES OF FIREWALL

i. **PACKET FILTER FIREWALL**- They are the simplest firewalls. Packet filters work by dropping packets based on their source or destination addresses or service (i.e., port number). In general, no context is kept; decisions are made only from the contents of the current packet. Depending on the type of router, filtering may be done at input time, at output time, or both. The administrator makes a list of the acceptable machines and services and a stop List of unacceptable machines or services. It is easy to permit or deny access at the host or network level with a packet filter.

ii. **CIRCUIT GATEWAYS** -Circuit gateways operate at the network transport layer. Again, connections are authorized based on addresses. Like filtering gateways, they (usually) cannot look at the data traffic flowing between one network and another, but they do prevent direct connections between one network and another.

iii. **APPLICATION GATEWAYS**- Application gateways or proxy-based firewalls operate at the application level and can examine information at the application data level. They can make their decisions based on application data, such as commands passed to FTP, or a URL passed to HTTP.

5.2. INTRUSION DETECTION SYSTEM (IDS) – An intrusion is an act where someone tries to access a system or information which they are not authorised to. An Intrusion Detection System (IDS) is a software application that monitors the network or system activities for malicious activities and unauthorized access to devices. IDSs collect information from a computer or a computer network in order to detect attacks and misuses of the system. Many IDSs only analyze the attacks and some of them try stopping the attack at the time of the intrusion. Three types of data are used by IDSs. These are network traffic data, system level test data and system status files.

Firewalls are hardware or software systems placed in between two or more computer networks to stop the committed attacks, by isolating these networks using the rules and policies determined for them. It is very clear that firewalls are not enough to secure a network completely because the attacks committed from outside of the network are stopped whereas inside attacks are not. This is the situation where intrusion detection systems (IDSs) are in charge. IDSs are used in order to stop attacks, recover from them with the minimum loss or analyse the security problems so that they are not repeated.

6. CONCLUSION AND FUTURE PROSPECTS

As we are heading towards a digital information era, bulk of important and confidential data is produced and transferred everyday across the globe over the internet that makes it vulnerable to numerous types of attacks and threats. So network security has become a major concern for every organisation, be it corporate, defence, government, banking, education etc.

This paper highlighted various Cryptography techniques developed to provide network security. Developing efficient cryptography algorithms which are difficult to break and immune to newer attacks and threats designed every day is the biggest challenge.

With the advent of the internet, network security has become a demanding and challenging area and there is a need to promote more and more research activities in the field of network security.

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THE IMPACT OF EMPLOYER BRANDING ON EMPLOYEE BEHAVIOR AND MOTIVATION

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ABSTRACT

Employer Branding is the new word for the modern Human Resource Managers. What was once considered to be the least of the management's worries has now come at the forefront while attracting employees of caliber. Employer Brand denotes an organization's reputation as an employer. For the purposes of the study, a questionnaire was prepared for the employees of a company in the financial consulting sector in India. Thirty respondents from lower, middle and higher-level management responded to the questionnaire. The responses were measured on a five-point Likert Scale. Simple statistical measures such as Arithmetic Mean and Mode were taken to evaluate the results. The prime purpose of the study was to understand whether the employers use branding in their organizations and whether the employees attach any value to the brand value that they are associated with.

KEYWORDS

employer brand, loyalty, attraction and motivation.

1. INTRODUCTION

Just like any other brand available in the market, Employer Brand too has a value and a positioning. Some may even attach a sentiment to it. In the present business scenario, it has become critical to not only build an Employer Brand but to also maintain it.

The employers are using branding today as a strategic tool. While for products, branding helps to create a market standing, an employer can use it to build economic value in order to attract and retain talent.

Employer branding is understood as the organization's value in the market. It is about a long-term relationship with the employees and the customers. There are two sets of employees – the current employees of the organization and the prospective employees. Both are concerned about the image of the organization in the eyes of the public. Employees are the internal customers of the organization and they facilitate the creation of its brand image. When people talk about a company, they usually refer to the organization climate, especially leadership style and the performance profile. Employer branding is understood as a concept linked to HRM as a strategy for attracting and retaining talent in a highly competitive environment.

Employer Brand denotes an organization's reputation as an employer. It is a set of attributes and qualities, often intangible, that makes an organization distinctive, promises a particular kind of employment experience, and appeals to those people who will thrive and perform to their best in its culture.

Today, an effective employer brand is essential for competitive advantage. Increasingly, corporations are becoming intentionally strategic to utilize the employer brand to attract and retain talent, and ultimately, to expand and grow.

The Human Resources of a company could use the employer brand for three main reasons:

1. Organizational Culture and Employee Fit
2. Positive outcomes for Recruiting
3. Retain talent with Corporate Values and Team-Based Culture

Despite the fact that the concept of Employer Branding is gaining popularity, there still seems to be a lot of scope to broaden the understanding of the concept.

2. LITERATURE REVIEW

The literature available on Employer Branding is considerable; however, there is insufficient literature available on the linkage between employer branding and employee retention.

Employer branding has been described as the sum of a company's efforts to communicate to the existing and prospective staff that it is a desirable place to work (Lloyd, 2002)

It can also be described as a company's image as seen through the eyes of its associates and potential hires (Martin and Beaumont, 2003).

Organizations today seek dual role of attracting new employees and retaining the existing lot. It is not only the intention of employees to stay in the organization but also the intention of an organization to retain its employees that matters.

Employer branding has been introduced as a method of enhancing retention by making the promise of employment (brand promise), so distinctive and superior to that of the competitors that the employee would not consider switching.

According to Banerjee (2008), employer branding is the process of creating an identity and managing the organization's image and its role as an employer to its present as well as prospective employees. He was of the view that HR branding is a subset of employer branding and therefore, the organization needs to take the following basic steps before it can embed an HR brand:

- The HR team of the firm must focus on developmental activities like strategic recruitments and training needs.
- The HR team must be given professional importance.
- The HR team must have close interactions with each departmental head so that it can play a pivotal role of facilitator in cross-functional issues.
- The HR team must lead the way for proper communication to reflect the vision of the firm

PERSPECTIVES ON EMPLOYER BRANDING

Ambler and Barrow (1996) defined employer brand as the package of functional, economic and psychological benefits provided by employment. According to the author, employer branding is to be construed as the personality of an organization as a preferred employer so that a person joins and works for the organization instead of its competitors.

The process of branding is 'involved in creating a unique name and image for a product (good or service) in the consumers' mind, through advertising campaigns with a consistent theme' (Business Dictionary 2013) and can be controlled by an industry or organization. Branding influences 'the beliefs held by individual consumers about a product's, or service's brand (perception of the name or logo)' (Collins and Stevens 2002, p. 1122). These beliefs constitute the brand image of a business or industry that individuals evoke when its name is heard. Image can be influenced by branding activities, but is also subject to the influence of consumer experiences of an organization, and is only partially in the control of the organization.

Potential employees perceive employers who have 'high employer brand value' as more attractive than those with lower employer brand value (Berthon et al. 2005).

Borgohain (2010) explained the term Employer Branding as the organization's value in the market; a long-term as well as a meaningful relationship between the employees and the customers.

Employer Branding is not an isolated activity. The company, its stakeholders, creditors and employees are all a part of the planned branding which the organization undertakes. The corporate brand constitutes a promise provided by the organization to its stakeholders; it needs to permeate all of the companies' behaviors and actions (Tilley 1999; Backhaus and Tikoo 2004).

The importance of a strong brand is stressed through the increased role of the Human Resource Department in the organization.

It is apparent that brand image of a company is noticeable, identifiable and can be easily distinguished from other companies. Company's brand communicates the goals, objectives and missions of the organization. These factors play a role in attracting and retaining talent and sustaining the brand image.

3. RESEARCH METHODOLOGY

The design employed for this research was a descriptive survey. A descriptive research attempts to describe characteristics of a population or phenomenon being studied. However, it does not answer why, when or how the characteristics occur. For this purpose, a sample of individuals is taken so that attributes of a larger population can be described.

The target sample were the employees working in a well-established financial accounting and consulting company. These employees were selected because the company was one of the pioneers in its area of expertise. It employs a large number of people and has often been considered the employer of choice.

A standardized questionnaire from Borgohain (2010) was taken. Fifteen questions were asked and these were divided into four sub-heads namely:

a. Management of the Organization
b. Management Practices
c. Comparative Evaluation
d. Customer Perception

These factors relate to various dimensions of the organization and contribute to building of an effective employer brand.

A five-point Likert Scale was used for the purposes of the study where the values allotted had the following connotations:

1 – Strongly Disagree
2 – Disagree
3 – Neither Agree nor Disagree
4 – Agree
5 – Strongly Agree

Responses were collected and conclusions were drawn gender-wise and designation-wise.

Of the data collected, 63% were males and 34% were females. Out of these, 40% of the employees surveyed belonged to the entry-level positions, 43% belonged to middle managerial employees and 17% were interns/associates.

The aim of this study was to identify the perceptions of employees towards the brand name of the organization in which they work and whether such a brand name has any relation with a long-term commitment with the organization.

4. FINDINGS AND RESULTS

The analysis was done gender-wise and designation-wise. The mean and modal scores of all the respondents were taken in order to find out the variations in responses.

TABLE 1

S .No.	Question	Mean	Mode
1	I have a great feeling about contributing something worthwhile for the organization and thereby facilitating creation of organization's image	3.67	3
2	A powerful employer brand is a necessity for attracting quality talent as well as retaining them in the current competitive environment of business	4.47	5
3	I have the opportunities to do what I am best at in my work and I wish to continue with the job and remain loyal to my organization	3.13	3
4	My work challenges me to be creative	3.28	3
5	I have flexibility in organizing my work and can take time off from work whenever necessary	2.73	3
6	The organization's dealings with its clients are transparent and it maintains effective relations with them	3.63	4
7	The organization's website contains all relevant information on business operations and projects a good public image	4.07	4
8	The organization's initiatives and implementation of CSR activities facilitate creation of the corporate brand	4	4
9	Employees consider their job more attractive than similar jobs elsewhere and intend to work as hard as necessary to continue with the organization	2.67	3
10	The organization empowers employees to take their own decisions on matters pertaining to their jobs	3.13	3
11	Employees like to associate themselves with the organization as it demonstrates a "brand of success" and instills pride	3.8	4
12	The employees and management all endeavor to Live the Brand	3.43	4
13	The work culture is transparent and employees participate in the management decisions	2.77	3
14	The organization's current brand image communicates the USP that helps to differentiate from its competitors	3.77	4
15	The organization is considered to be the "Employer by Choice" among the others	3.7	4

While the most frequent responses vary between *Agree* and *Neither Agree nor Disagree,* employees do feel that a powerful employer brand is a necessity for attracting quality talent as well as retaining them in the current competitive environment of business.

However, looking at the mean scores, the lowest scores are in terms of not getting enough flexibility, the degree of attractiveness of their current job and transparency of the organization. Employees are not very involved in the management decisions but would like to participate in these, if permitted.

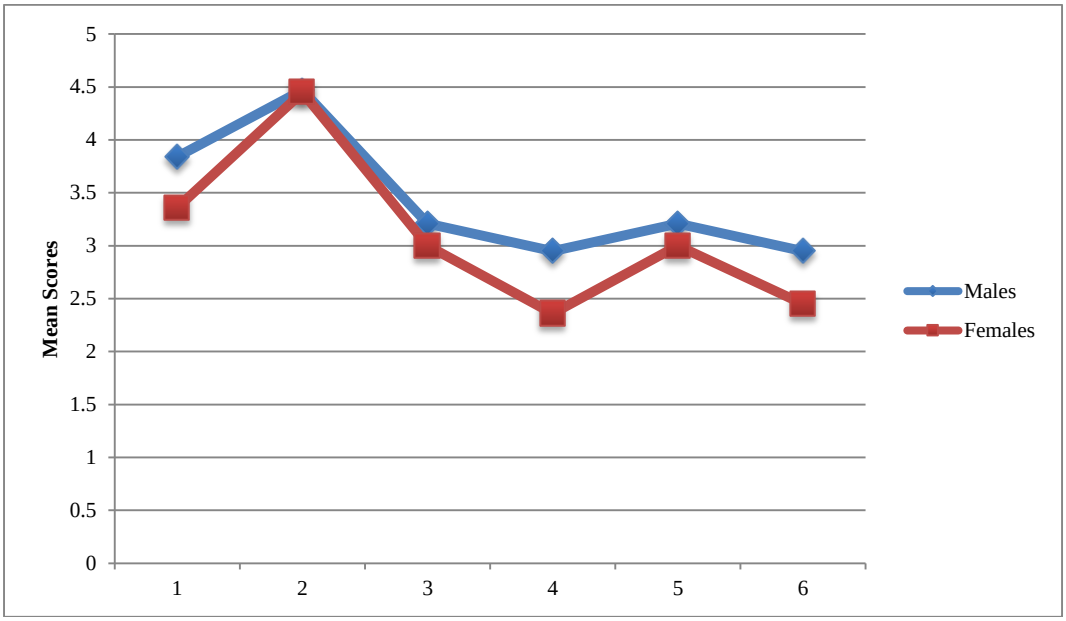
These questions were further sub-divided into four factors and were analyzed as follows:

1. MANAGEMENT OF THE ORGANIZATION

Of the fifteen questions asked, six questions pertained to employees' perception of how the organization was managed.

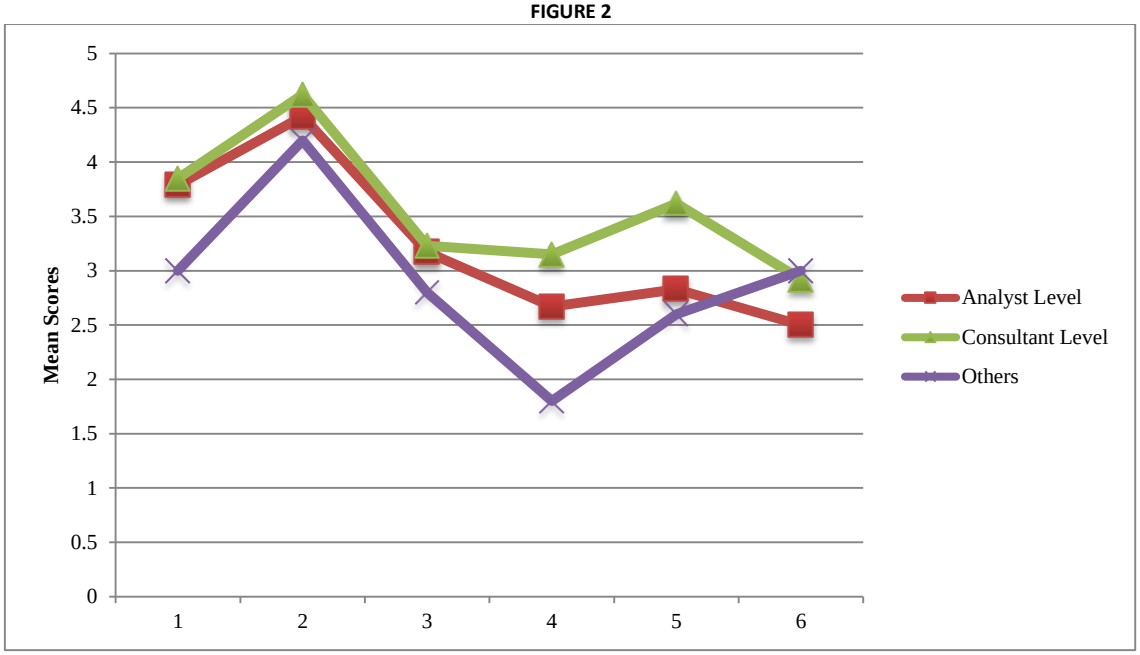
Males were found to be more satisfied with the way the organization is managed in terms of wanting to remain loyal to the organization and having flexibility in organizing their work with a mean score of 3.44 as compared to females who had a mean score of 3.1. This can be seen from Figure 1.

FIGURE 1



If we take a look designation-wise, employees at the Analyst level (i.e. the first level of hierarchy in the organization) seemed to be satisfied with a mean score of 3.23 while the employees at senior levels (associate consultants, consultants and senior consultants) were marginally more satisfied with a mean score of 3.57. However, other employees who fell in the category of executives or interns seemed the least satisfied with a mean score of only 2.9. This is shown in Figure 2.

FIGURE 2

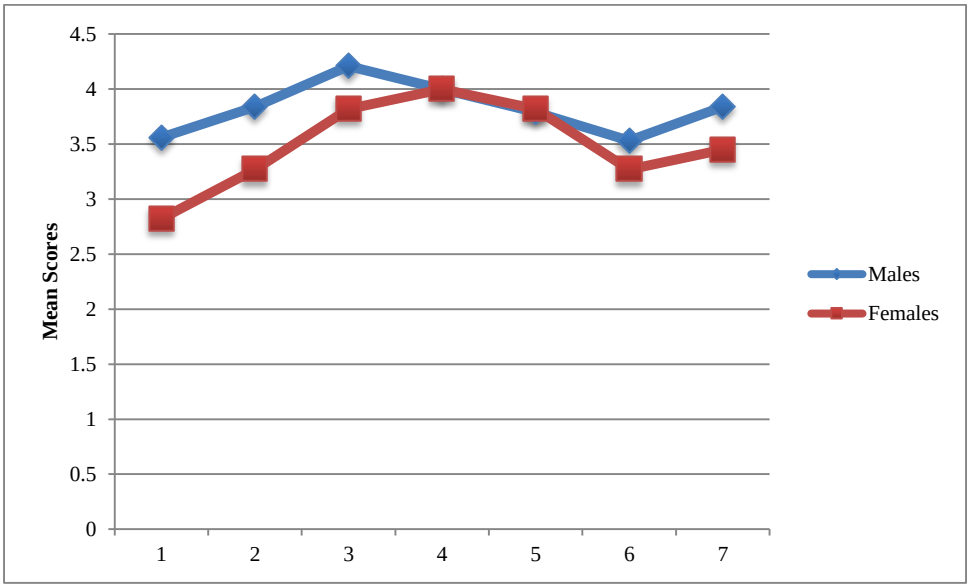


2. MANAGEMENT PRACTICE

Of the fifteen questions asked, seven questions pertained to managerial practices in the organization.

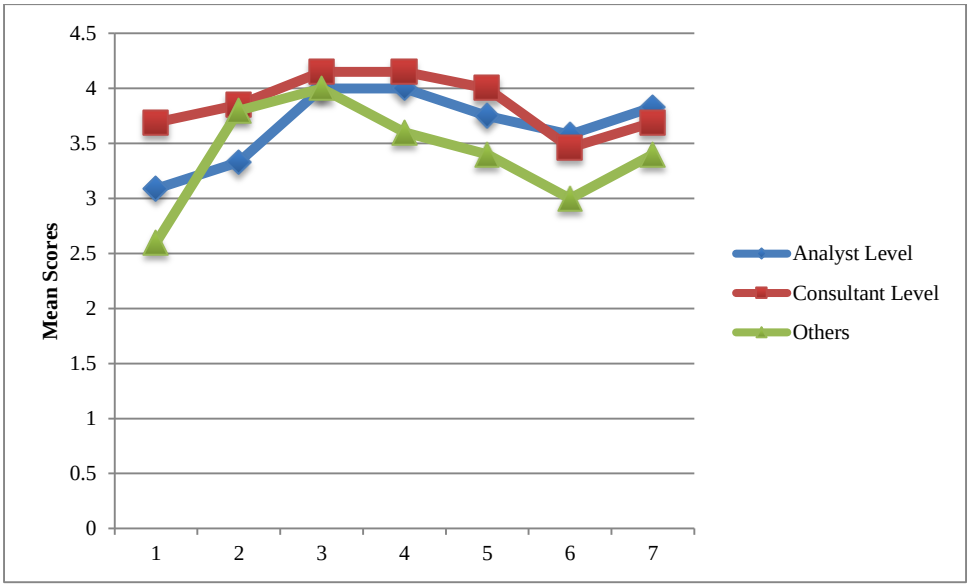
Similar to Management of the Organization, males were again found to be marginally more satisfied with the management practices in terms of the creativity they were allowed to exhibit at the workplace as well as the brand name of the company instilling a sense of pride. They had a mean score of 3.82 as compared to females with a mean score of 3.49. We can refer to Figure 3 for a comparative analysis.

FIGURE 3



Employees at the Consultant level were most satisfied with the management practice in terms of the organization projecting a good public image and being considered as an Employer of Choice among other competing firms with a mean score of 3.86. The mean scores of employees at the Analyst level and Other Employees were 3.65 and 3.4 respectively and this is shown in Figure 4.

FIGURE 4

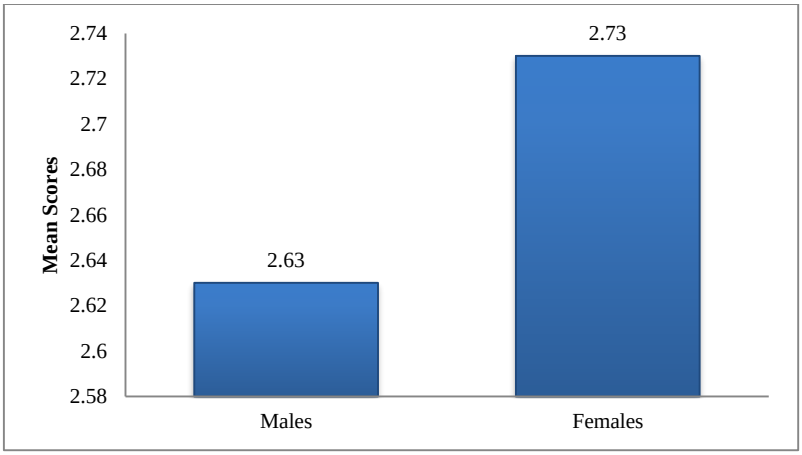


3. **COMPARATIVE EVALUATION**

One question pertained to how the employees compare their jobs to other available jobs akin to their nature of work.

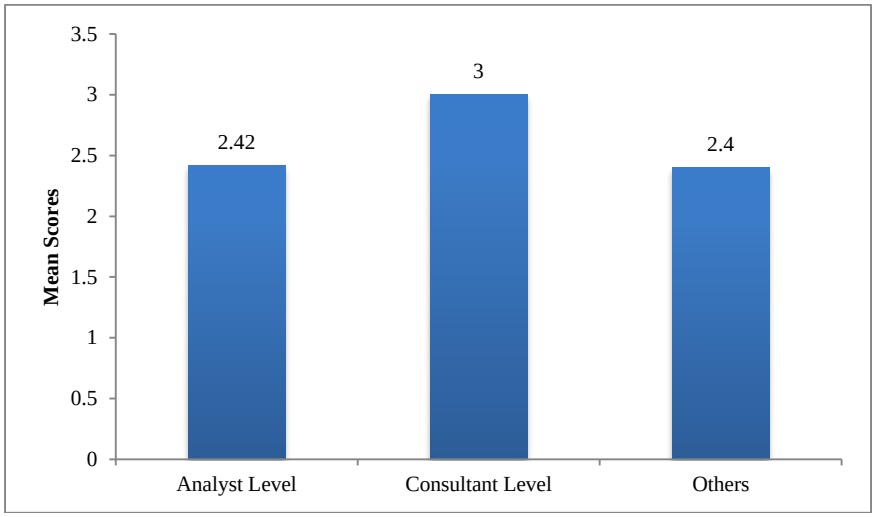
Although employees working in this organization did not consider their jobs more attractive than similar jobs elsewhere, females were comparatively more satisfied than males and intended to work harder to continue with the organization. They had a mean score of 2.73 as compared to a mean score of 2.63 for males. Figure 5 represents this information.

FIGURE 5



Employees at the Consultant positions were slightly more inclined to work hard in the organization with a mean score of 3 while employees at Analyst and Other positions had similar views on the attractiveness of their jobs with mean scores of 2.42 and 2.4 respectively. This is shown in Figure 6.

FIGURE 6



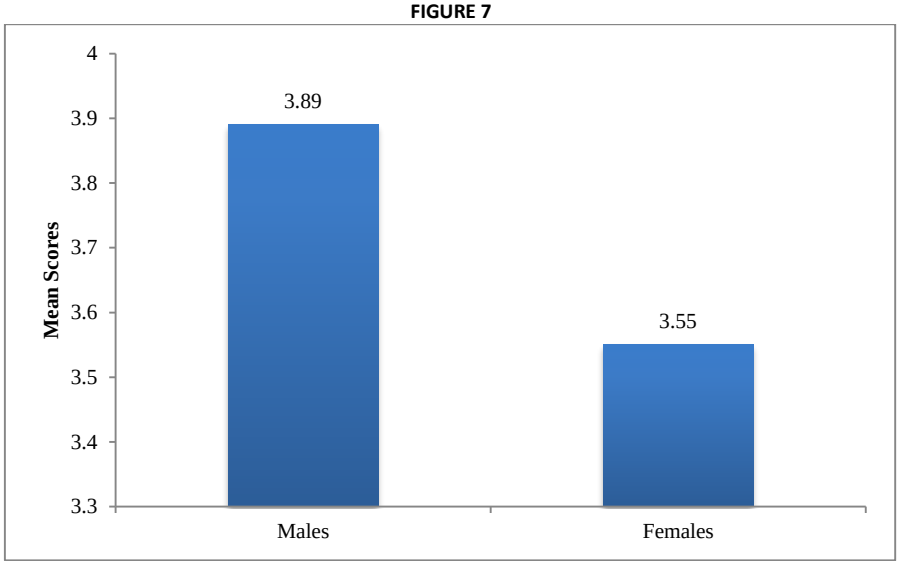
4. **CUSTOMER PERCEPTION**

One question also pertained to how the organization characterized itself as more superior with regard to its competitors.

The organization's current brand image communicates the USP that differentiates it from its competitors. This is reflected in the employees' responses to the perception about the organization.

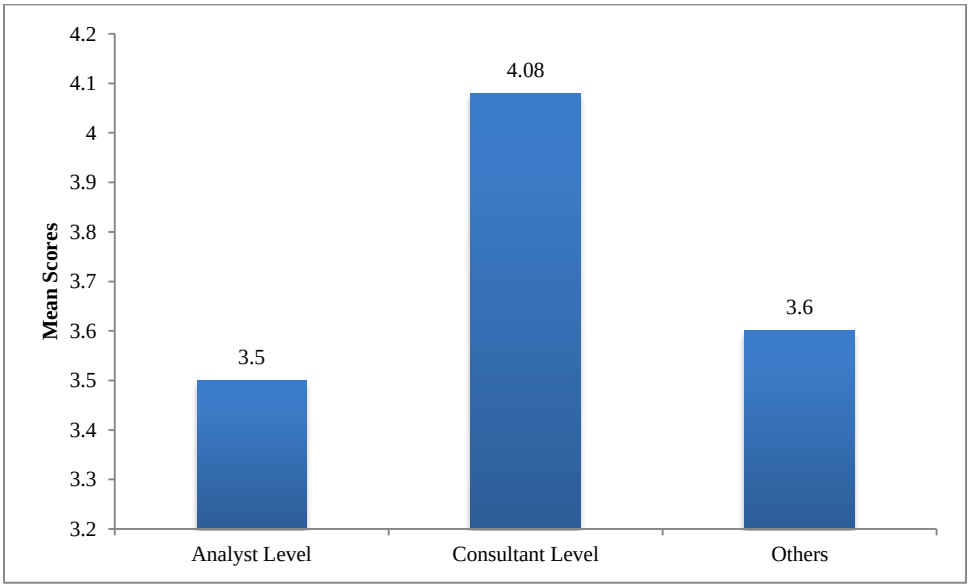
All employees seem to exhibit high levels of satisfaction where this factor is concerned. Males are more satisfied than females with a mean score of 3.89 while females have a mean score of 3.55. Refer Figure 7 for details.

FIGURE 7



Employees at Consultant level have shown very high levels of satisfaction with a mean score of 4.08, which is the highest score. Other employees especially interns also associate themselves with the organization's brand image and have scored marginally higher than employees at the permanent Analyst level positions with a mean score of 3.6 and 3.5 respectively. Refer Figure 8.

FIGURE 8



5. CONCLUSION

For confidential reasons, the name of the organization has not been revealed. However, the Forbes Magazine has continuously ranked the organization as one of the best Accounting Firms to Work for. With a strong reputation and an already established brand name, this organization claims that it treats its employees better than others.

It has also been given the tag of the Ideal Employer by Universum in the past.

Due to limitations of time and unavailability of employees, the study was restricted only to 30 employees of the company. However, the findings of the study can be further analyzed to understand the impact of a strong employer brand. More employees at higher levels can be surveyed. The viewpoints of employees belonging to different business units and service lines can also be taken into consideration to understand if there are any differences in the views of employees across Business Units.

On an analysis of all the four factors mentioned above, we can see that although the company carries a huge brand name to its credit, the employees have not shown the satisfaction level that they ought to have. Most of the employees seem to be somewhat satisfied with the organization.

The following tables show the results

A. GENDER-WISE ANALYSIS

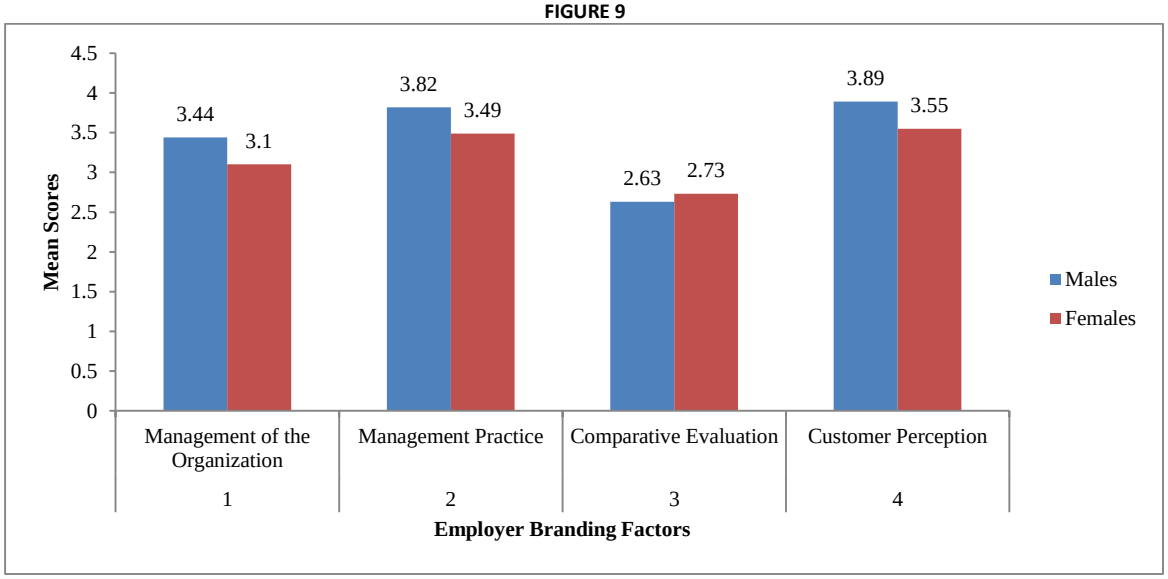
The table shown below gives the gender-wise average of responses according to the four factors:

TABLE 2

Gender Wise			
S. No.	**Factor**	**Males**	**Females**
1	Management of the Organization	3.44	3.1
2	Management Practice	3.82	3.49
3	Comparative Evaluation	2.63	2.73
4	Customer Perception	3.89	3.55

Males have a greater feeling about contributing something worthwhile for the organization. They wish to remain loyal to the organization and have flexibility to manage their work. They exhibit greater satisfaction and like to associate themselves with the brand name of the organization. Although they find outside jobs more attractive, nevertheless they believe that the organization has a USP that differentiates itself from others in the field. This is shown in Figure 9.

FIGURE 9



B. DESIGNATION-WISE ANALYSIS

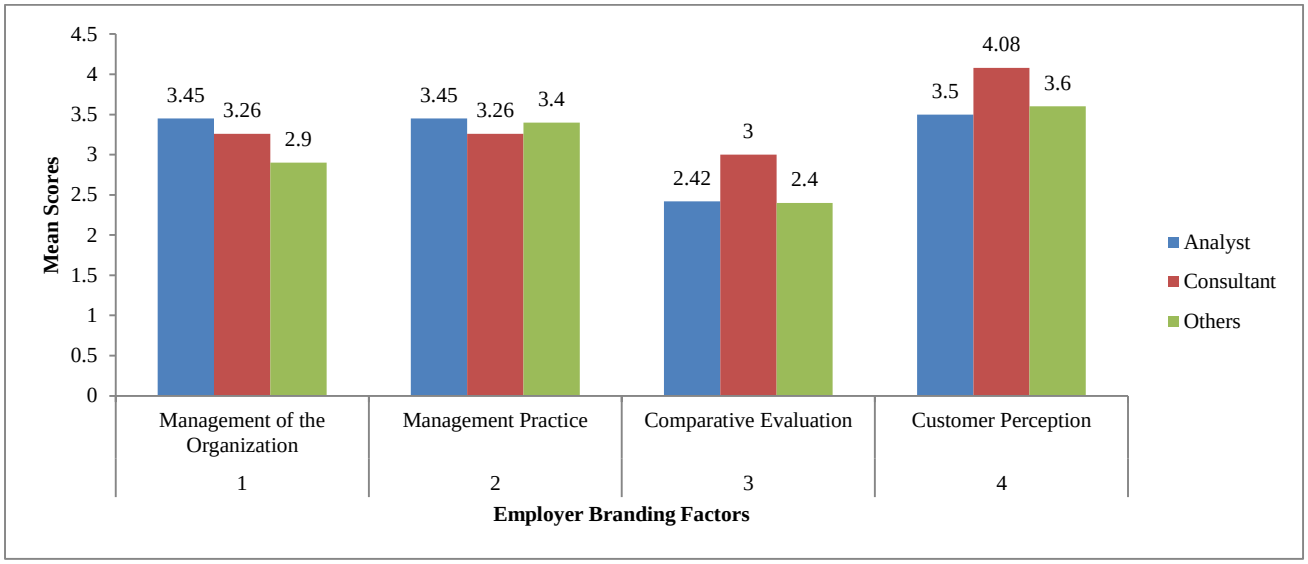
The designation-wise analysis is also shown below:

TABLE 3

Designation Wise				
S.No.	**Factor**	**Analyst Level**	**Consultant Level**	**Others**
1	Management of the Organization	3.23	3.57	2.9
2	Management Practice	3.65	3.86	3.4
3	Comparative Evaluation	2.42	3	2.4
4	Customer Perception	3.5	4.08	3.6

The employees at the Consultant levels i.e. Associate Consultants, Consultants and Senior Consultants are most satisfied with the organization for all four factors. This could be due to their longer affiliation with the organization as well as a better understanding of the mission and vision of the organization. Employees at the Analyst level who have just begun their career with the organization seem to show slightly less satisfaction in terms of flexibility, creativity and other such factors. This could change in due course as they spend more time with the organization. Other employees especially interns have had a very short affiliation with the firm and may not have fully understood the functioning of the organization which is why their responses have shown lowest levels of satisfaction. This is evident from Figure 10.

FIGURE 10



Based on the above analysis, it is recommended that ideal management practices such as keeping the communication channel prompt, having transparent public dealings, etc. can help further improve the corporate brand image. Further, empowering employees to take their own decisions regarding their job by providing autonomy to employees to act independently by having a supportive and approachable environment can improve management of the organization.

It can be concluded that Employer Branding has gained popularity in the turbulent organizational climate and has been used by many organizations to maintain successful relationships with its employees as well as the public. Its importance and pertinence cannot be neglected.

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A STUDY OF AVAILABLE BENEFITS TO PROVIDE EASE OF DOING BUSINESS

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ABSTRACT

As per Union Finance Act, 2016, the government has added a section 80-IAC and amended many other sections for the purpose of providing an incentive to the new businesses under clause 41 of finance bill, 2016. With effect from financial year 2016-17 and assessment year 2017-2018, this benefit will be available. This section has been considered as a big push to the idea of 'start-up India Action Plan'. Under this section, new corporate form of business houses having a total capital up to 25 crores has been given a tax holiday for three years within the period of 5 consecutive years succeeding the year of incorporation of company. Apart from this incentive, the government has provided many other benefits under the recent finance acts. The aim of government is to provide various taxes related exemptions and rationalization of taxation system to create employment promote investment and facilitate business growth. This paper has tried to explain the main incentives available for setting up business in India.

KEYWORDS

tax, patent, tax regime, rationalization, exemption.

1. INTRODUCTION

As per Union Finance Act, the government has added a section 80-IAC for the purpose of providing an incentive to the new businesses under clause 41 of finance bill, 2016. With effect from financial year 2016-17 and assessment year 2017-2018, this benefit will be available. This section has been considered as a big push to the idea of 'start-up India Action Plan'. Under this section, new corporate form of business houses having a total capital up to 25 crores has been given a tax holiday for three years within the period of 5 consecutive years succeeding the year of incorporation of company. Apart from this tax holidays, the government of India have proposed many other tax incentives and reforms to provide ease of setting up the business and promote the foreign investment and create gainful employment opportunities to everyone.

2. IMPORTANCE OBJECTIVE OF THE STUDY

With a view to providing an impetus to start-ups and facilitate their growth in the initial phase of their business, it is proposed to provide a deduction of one hundred percent of the profits and gains derived by an eligible start-up from a business involving innovation development, deployment or commercialization of new products, processes or services driven by technology or intellectual property. This research paper has tried to explain the available benefits and conditions in detail. Through this research paper it has been tried to focus on the government of India's plans towards the digital India and make in India.

3. RESEARCH METHODOLOGY

For the purpose of above study, the finance act of 2016 and 2017 were thoroughly studied and data was collected. Further other acts were also referred for the purpose of better clarification. A research completely based on printed source of data collected from the website of minister of finance was conducted.

4. REVIEW OF LITERATURE

4.1 START-UP

Start-up means a company or a limited liability partnership business which fulfils the following conditions, namely:

a. They are engaged in a business which involves innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property;
b. it is incorporated on or after the 1st day of April, 2016 but before the 1st day of April, 2019;
c. the total turnover of its business does not exceed twenty-five crore rupees in any of the previous years beginning on or after the 1st day of April, 2016 and ending on the 31st day of March, 2021; and
d. it holds a certificate of eligible business from the Inter-Ministerial Board of Certification as notified in the Official Gazette by the Central Government;
e. it is not formed by splitting up, or the reconstruction, of a business already in existence:
f. It is not formed by the transfer to a new business of machinery or plant previously used for any purpose.
g. Where in the case of a start-up, any machinery or plant or any part thereof previously used for any purpose is transferred to a new business and the total value of the machinery or plant or part so transferred does not exceed twenty per cent of the total value of the machinery or plant used in the business.
h. total turnover of its business does not exceeds Rs. 25 crores in any of the following five financial years i.e., FY 2016-17 To FY 2020-21(Note: under finance act this time has been changed from Financial year 2016-17 to Financial year 2022-23 i.e. seven years.)
i. Separate Accounts are required for Eligible Business.
j. Accounts are required to be audited by a Chartered Accountant.
k. To furnish Audit Report in Form No. 10CCB, along with Return of Income

4.2 LIMITED LIABILITY PARTNERSHIP

limited liability partnership" means a partnership referred to in clause (n) of sub-section (1) of section 2 of the Limited Liability Partnership Act, 2008 (6 of 2009) which states that LLP is a partnership firm being a body corporate formed and registered under the LLP Act, 2008.

4.3 ELIGIBLE BUSINESS

Eligible business" means a business which involves innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property;

4.4 COMPANY

Company" means a company formed and registered under this Act or an existing company as defined in clause (ii).
Existing company" means a company formed and registered under any of the previous companies laws specified below: -
(a) Any Act or Acts relating to companies in force before the Indian Companies Act, 1866 (10 of 1866), and repealed by that Act;
(b) The Indian Companies Act, 1866 (10 of 1866);
(c) The Indian Companies Act, 1882 (6 of 1882);
(d) The Indian Companies Act, 1913 (7 of 1913);
(e) The Registration of Transferred Companies Ordinance, 1942 (54 of 1942); and
(f) Any law corresponding to any of the Acts or the Ordinance aforesaid and in force.

5. BENEFITS AVAILABLE TO START-UPS

5.1 TAX HOLIDAY FOR 3 YEARS

With a view to providing an impetus to start-ups and facilitate their growth in the initial phase of their business, it is proposed to provide a deduction of one hundred percent of the profits and gains derived by an eligible start-up from a business involving innovation development, deployment or commercialization of new products, processes or services driven by technology or intellectual property.

The benefit of hundred percent deductions of the profits derived from such business shall be available to an eligible start-up which is setup before 01.04.2019.

Further, in order to promote the start-up ecosystem in the country, it is envisaged in 'start-up India Action Plan' to establish a Fund of Funds which intends to raise Rs 2500 crores annually for four years to finance the start-ups.

5.2 EXEMPTIONS FROM CAPITAL GAIN TAX

The existing provisions of section 54GB provide exemption from tax on long term capital gains in respect of the gains arising on account of transfer of a residential property, if such capital gains are invested in subscription of shares of a company which qualifies to be a small or medium enterprise under the Micro, Small and Medium Enterprises Act, 2006 subject to other conditions specified therein.

With an objective to provide relief to an individual or HUF willing to setup a start-up company by selling a residential property to invest in the shares of such company, it is proposed to amend section 54GB so as to provide that long term capital gains arising on account of transfer of a residential property shall not be charged to tax if such capital gains are invested in subscription of shares of a company which qualifies to be an eligible start-up subject to the condition that the individual or HUF holds more than fifty percent shares of the company and such company utilizes the amount invested in shares to purchase new asset before due date of filing of return by the investor.

The existing provision of section 54GB requires that the company should invest the proceeds in the purchase of new asset being new plant and machinery but does not include, inter-alia, computers or computer software.

With a view to avoid the incidence of the aforesaid condition on start-ups where computers or computer software form the core asset base owing to nature of business activity, it is proposed to amend section 54GB so as to provide that the expression "new asset" includes computers or computer software in case of technology driven start-ups so certified by the Inter-Ministerial Board of Certification notified by the Central Government in the official Gazette.

These amendments will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year 2017-18 and subsequent assessment years.

5.3 TAX INCENTIVE FOR EMPLOYMENT GENERATION

The existing provisions of Section 80JJAA provide for a deduction of thirty percent of additional wages paid to new regular workmen in a factory for three years. The provisions apply to the business of manufacture of goods in a factory where 'workmen' are employed for not less than three hundred days in a previous year. Further, benefits are allowed only if there is an increase of at least ten percent in total number of workmen employed on the last day of the preceding year.

With a view to extend this employment generation incentive to all sectors, it is proposed to provide that the deduction under the said provisions shall be available in respect of cost incurred on any employee whose total emoluments are less than or equal to twenty-five thousand rupees per month. No deduction, however, shall be allowed in respect of cost incurred on those employees, for whom the entire contribution under Employees' Pension Scheme notified in accordance with Employees' Provident Fund and Miscellaneous Provisions Act, 1952, is paid by the Government.

It is further proposed to relax the norms for minimum number of days of employment in a financial year from 300 days to 240 days and also the condition of ten per cent increase in number of employees every year is proposed to be done away with so that any increase in the number of employees will be eligible for deduction under the provision. It is also proposed to provide that in the first year of a new business, thirty percent of all emoluments paid or payable to the employees employed during the previous year shall be allowed as deduction. This amendment will take effect from 1st April, 2017 and will accordingly apply in relation to assessment year 2017-18 and subsequent assessment years.

5.4 EXEMPTION FROM DIVIDEND DISTRIBUTION TAX (DDT) ON DISTRIBUTION MADE BY AN SPV TO BUSINESS TRUST

In respect of taxation of business trusts comprising of Real Estate Investment Trust (REITs) and Infrastructure Investment Trust (Invits) regulated by SEBI a specific taxation regime has been incorporated in the Act. Under this regime, the multiple taxation due to interposition of business trust will be avoided. Under the SEBI regulation, these business trusts can hold the income generating asset either directly or through a Special Purpose Vehicle (SPV). The SPV can be a company or an LLP.

Under SEBI Regulation, SPV is defined to mean any company or LLP in which REIT holds or proposes to hold controlling interest which is not less than fifty percent of the equity share capital or interest. The SPV should hold at least 80% of the assets in properties and not invest in other SPV.

The existing tax regime provides that in case of REITs, the income by way of interest paid by SPV being a company to REIT is given pass through i.e. it is not taxed at the level of REIT but in the hands of respective investors of REIT. The rental income from directly held assets by REIT is also allowed a pass through. In respect of assets held through an SPV, if SPV is a company then the company pays normal corporate tax and thereafter when the income is distributed to the REIT being a shareholder, it suffers DDT which is paid by the SPV and thereafter the income is exempt both in the hands of REIT and also its investors. In case of Invits, there is a similar regime with only exception being that there is no pass through for Invits holding income generating assets directly as normally such large infrastructure projects are not held directly in the trust but are held through an SPV.

As an incentive in the case of sponsor (the person setting up trust), capital gain arising at time of swap of its shareholding in SPV for units of business trust is deferred both under normal provisions and from applicability of MAT. Such gains get taxed only after actual sale of units. It has been represented by the stake-holders that levy of dividend distribution tax at the level of SPV when it distributes its current income to the business trust makes the business trust structure tax inefficient and adversely impacts the rate of return for the investor. This is more so, as under SEBI regulations both the SPV and business trust are obligated to distribute 90% of their operating income to the investors, whereas in case of normal real estate company, there is no requirement of such annual distribution of dividends. It has been represented that because of the additional levy of DDT and associated tax inefficiency, these initiatives have not yet taken off.

In order to further rationalize the taxation regime for business trusts (REITs and Invits) and their investors, it is proposed to provide a special dispensation and exemption from levy of dividend distribution tax. The salient features of the proposed dispensation are: —

(a) Exemption from levy of DDT in respect of distributions made by SPV to the business trust;

(b) Such dividend received by the business trust and its investor shall not be taxable in the hands of trust or investors;

(c) the exemption from levy of DDT would only be in the cases where the business trust either holds 100% of the share capital of the SPV or holds all of the share capital other than that which is required to be held by any other entity as part of any direction of any Government or specific requirement of any law to this effect or which is held by Government or

Government bodies; and

(d) the exemption from the levy of DDT would only be in respect of dividends paid out of current income after the date when the business trust acquires the shareholding referred in (c) above in the SPV. The dividends paid out of accumulated and current profits up to this date shall be liable for levy of DDT as and when any dividend out of these profits is distributed by the company either to the business trust or any other shareholder.

The amendment will take effect from 1st June, 2016.

5.5 MODIFICATION IN CONDITIONS OF SPECIAL TAXATION REGIME FOR OFFSHORE FUNDS SECTION 9A

Section 9A of the Act provides for a special regime in respect of offshore funds. It provides that in the case of an eligible investment fund, the fund management activity carried out through an eligible fund manager acting on behalf of such fund shall not constitute business connection in India of the said fund. Further, an eligible investment fund shall not be said to be resident in India merely because the eligible fund manager undertaking fund management activities on its behalf is located in India. The benefit under section 9A is available subject to the conditions provided in sub-sections (3), (4) and (5) of this section.

The sub-section (3) of section 9A provides for the conditions for the eligibility of the fund. These conditions, inter-alia, are related to residence of fund, corpus size, investor base, investment diversification and payment of remuneration to fund manager at arm's length. In respect of residence of the fund, the condition is

that the fund has to be resident of a country or territory with which India has entered into a Double Taxation Avoidance Agreement (DTAA) or Tax Information Exchange Agreement (TIEA).
In respect of activities of fund, there is a restriction that the fund shall not carry on or control and manage, directly or indirectly, any business in India or from India and shall neither engage in any activity which constitutes a business connection in India nor have any person acting on its behalf whose activities constitute a business connection in India other than the activities undertaken by the eligible fund manager on its behalf.
Representations had been received stating that there are many instances where a fund may not qualify as a tax resident of a country on account of domestic tax laws or legal framework of the country. The global structure of these funds had been based on applicable legal and regulatory framework of their country of incorporation and cannot be modified in respect of any investment made in a particular country. Examples of large pension funds or mutual funds from USA or SICAVs (open ended collective investment schemes) from Luxembourg had been cited. It has been stated that India would still be able to collect information regarding fund under the applicable DTAA or TIEA as under the agreements with many of the countries, information can be exchanged in respect of persons who may not be resident of the country. It had been further represented that the conditions relating to restriction on fund carrying on business or controlling fund managing business in India or from India restricts the flexibility of operation for funds and focus should be on nature of activities undertaken in India.
In order to rationalize the regime and to address the concerns of the industry, it is proposed to modify these conditions to provide that the eligible investment fund for purposes of section 9A shall also mean a fund established or incorporated or registered outside India in a country or a specified territory notified by the Central Government in this behalf. It is also proposed to provide that the condition of fund not controlling and managing any business in India or from India shall be restricted only in the context of activities in India.
The amendments will take effect from 1st April, 2017 and shall apply to the assessment year 2017-18 and subsequent assessment years.

5.6 INTRODUCTION OF PRESUMPTIVE TAXATION SCHEME FOR PERSONS HAVING INCOME FROM PROFESSION

The existing scheme of taxation provides for a simplified presumptive taxation scheme for certain eligible persons engaged in certain eligible business only and not for persons earning professional income. In order to rationalize the presumptive taxation scheme and to reduce the compliance burden of the small tax payers having income from profession and to facilitate the ease of doing business, it is proposed to provide for presumptive taxation regime for professionals.
In this regard, new section 44ADA is proposed to be inserted in the Act to provide for estimating the income of an assessee who is engaged in any profession referred to in sub-section (1) of section 44AA such as legal, medical, engineering or architectural profession or the profession of accountancy or technical consultancy or interior decoration or any other profession as is notified by the Board in the Official Gazette and whose total gross receipts does not exceed fifty lakh rupees in a previous year, at a sum equal to fifty percent of the total gross receipts, or, as the case may be, a sum higher than the aforesaid sum earned by the assessee. The scheme will apply to such resident assessee who is an individual, Hindu undivided family or partnership firm but not Limited Liability partnership firm. Under the scheme, the assessee will be deemed to have been allowed the deductions under section 30 to 38. Accordingly, the written down value of any asset used for the purpose of the profession of the assessee will be deemed to have been calculated as if the assessee had claimed and had actually been allowed the deduction in respect of depreciation for the relevant assessment years. It is also proposed that the assessee will not be required to maintain books of account under sub-section (1) of section 44AA and get the accounts audited under section 44AB in respect of such income unless the assessee claims that the profits and gains from the aforesaid profession are lower than the profits and gains deemed to be his income under sub-section (1) of section 44ADA and his income exceeds the maximum amount which is not chargeable to income-tax.
These amendments will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year and subsequent years.

5.7 INCREASE IN THRESHOLD LIMIT FOR AUDIT FOR PERSONS HAVING INCOME FROM PROFESSION

Under the existing provisions of section 44AB of the Act every person carrying on a profession is required to get his accounts audited if the total gross receipts in a previous year exceed twenty five lakh rupees. In order to reduce the compliance burden, it is proposed to increase the threshold limit of total gross receipts, specified under section 44AB for getting accounts audited, from twenty five lakh rupees to fifty lakh rupees in the case of persons carrying on profession.
These amendments will take effect from 1st April, 2017 and will, accordingly, apply to the assessment year 2017-18 and subsequent assessment years.

5.8 INCREASING THE THRESHOLD LIMIT FOR THE MAINTAINANCE OF BOOKS OF ACCOUNTS IN CASE OF INDIVIDUALS AND HINDU UNDIVIDED FAMILY

The existing provisions of clause (i) and clause (ii) of sub-section (2) of section 44AA of the Act cast an obligation on every person carrying on business or profession [other than those mentioned in sub-section (1) such as legal, medical, engineering or architectural profession or the profession of accountancy or technical consultancy or interior decoration or any other profession as is notified by the Board in the Official Gazette] to maintain such books of accounts and documents in the previous year to enable the Assessing Officer to compute his total income in accordance with the provisions of Act, provided that the income and total sales or turn over or gross receipts, etc specified in said clauses exceeds rupees one lakh twenty thousand and rupees ten lakh, respectively.
In order to reduce the compliance burden, it is proposed to amend the provisions of section 44AA to increase monetary limits of income and total sales or turn over or gross receipts, etc specified in said clauses for maintenance of books of accounts from one lakh twenty thousand rupees to two lakh fifty thousand rupees and from ten lakh rupees to twenty-five lakh rupees, respectively in the case of Individuals and Hindu undivided family carrying on business or profession. This amendment will take effect from 1st April, 2018 and will, accordingly, apply in relation to the assessment year 2018-19 and subsequent years.

5.9 EXCLUSION OF CERTAIN SPECIFIED PERSON FROM REQUIREMENT OF AUDIT OF ACCOUNTS UNDER SECTION 44B

The existing provision of section 44AB of the Act, inter-alia provides that every person carrying on the business is required to get his accounts audited if the total sales, turnover or gross receipts in the previous year exceeds one crore rupees. The threshold limit for applicability of presumptive taxation in case of eligible business carried on by eligible person under section 44AD was increased to two crore rupees from one crore rupees with effect from 1st April, 2017 relevant to Assessment year 2017-18 by Finance Act, 2016. Further vide press release dated 20th June, 2016, it was clarified that if an eligible person opts for presumptive taxation scheme as per section 44AD(1) of the Act, he shall not be required to get his accounts audited if the total turnover or gross receipts of the relevant previous year does not exceed two crore rupees.
In light of the above legislative changes and to reduce the compliance burden of the small tax payers and facilitate the ease of doing business, it is proposed to amend the section 44AB to exclude the eligible person, who declares profits for the previous year in accordance with the provisions of sub-section (1) of section 44AD and his total sales, total turnover or gross receipts, as the case may be, in business does not exceed two crore rupees in such previous year, from requirement of audit of books of accounts under section 44AB.
This amendment will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year 2017-18 and subsequent years.

5.10 RATIONALIZATION OF SECTION 211 AND SECTION 234 C RELATING TO ADVANCE TAX

Section 211 of the Act provides for installments of advance tax and due dates for depositing the same. Clause (b) of sub-section (1) of the said section provides that an eligible assessee engaged in an eligible business referred to in section 44AD is liable to pay advance tax in a single installment on or before the 15th of March every financial year.
Vide Finance Act 2016; presumptive taxation regime has been extended to professionals also. Hence, it is proposed to amend the said clause (b) to provide that the assessee who declares profits and gains in accordance with presumptive taxation regime provided under section 44ADA shall also be liable to pay advance tax in one installment on or before the 15th of March. It is also proposed to make consequential amendments in sub-section (1) of section 234C to provide that in respect of an assessee referred to in section 44ADA, interest under the said section shall be levied, if the advance tax paid on or before the 15th March, is less than the tax due on the returned income. Vide Finance Act, 2016; tax on certain dividends received from domestic companies is to be levied under section 115BBDA of the Act with effect from the 1st April, 2017, if such income exceeds ten lakh rupees. However, in view of the uncertain nature of declaration and receipt of dividend incomes, an assessee liable to pay advance tax may not be able to correctly determine such liability within the payment schedule as specified under section 211 and shall, therefore, incur levy of interest on deferment of advance tax as specified under clauses (a) or (b) of section 234C (1). It is hence proposed to provide that that if shortfall in payment of advance tax is on account of under-estimation or failure in estimation of income of the nature referred to in section 115BBDA, the interest under section 234C shall not be levied subject to fulfillment of conditions specified therein.
These amendments will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year 2017-18 and subsequent years.

5.11 EXTENDING THE BENEFIT OF INITIAL ADDITIONAL DEPRECIATION UNDER SECTION 32(1)(iia) FOR POWER SECTOR

Under the existing provisions of section 32(1)(iia) of the Act, additional depreciation of 20% is allowed in respect of the cost of new plant or machinery acquired and installed by certain assessees engaged in the business of generation and distribution of power. This depreciation allowance is over and above the deduction allowed for general depreciation under section 32(1) (ii) of the Act.

Under the existing provisions, the benefit of additional depreciation is not available on the new machinery or plant installed by an assessee engaged in the business of transmission of power. In order to rationalize the incentive of power sector, it is proposed to amend this section so as to provide that an assessee engaged in the business of transmission of power shall also be allowed additional depreciation at the rate of 20% of actual cost of new machinery or plant acquired and installed in a previous year.

This amendment will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year 2017-18 and subsequent assessment years.

5.12 TAXATION OF INCOME FROM "PATENTS"

In order to encourage indigenous research & development activities and to make India a global R & D hub, the Government has decided to put in place a concessional taxation regime for income from patents. The aim of the concessional taxation regime is to provide an additional incentive for companies to retain and commercialize existing patents and to develop new innovative patented products. This will encourage companies to locate the high-value jobs associated with the development, manufacture and exploitation of patents in India. The Organization for Economic Cooperation and Development (OECD) has recommended, in Base Erosion and Profit Shifting (BEPS) project under Action Plan 5, the nexus approach which prescribes that income arising from exploitation of Intellectual property (IP) should be attributed and taxed in the jurisdiction where substantial research & development (R&D) activities are undertaken rather than the jurisdiction of legal ownership only.

Accordingly, it is proposed to insert new section 115BBF to provide that where the total income of the eligible assessee income includes any income by way of royalty in respect of a patent developed and registered in India, then such royalty shall be taxable at the rate of ten per cent (plus applicable surcharge and cess) on the gross amount of royalty. No expenditure or allowance in respect of such royalty income shall be allowed under the Act.

For the purpose of this concessional tax regime an eligible assessee means a person resident in India, who is the true and first inventor of the invention and whose name is entered on the patent register as the patentee in accordance with Patents Act, 1970 and includes every such person, being the true and the first inventor of the invention, where more than one person is registered as patentee under Patents Act, 1970 in respect of that patent. These amendments will take effect from 1st April, 2017 and will, accordingly, apply in relation to the assessment year 2017-18 and subsequent years.

6. CONCLUSION

As explained above, we can see that the government of India is providing many incentives for new undertakings. The upcoming time will test the usefulness and fruitfulness of these incentives. But these steps were considered to be very necessary for the purpose of creating an easy tax regime for the purpose of promotion of investment, employment and business growth.

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COOPERATIVE AS AN ALTERNATIVE WAY TO FINANCIAL INCLUSION AND HUMAN DEVELOPMENT: A STUDY IN PURBA MEDINIPUR DISTRICT

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ABSTRACT

Financial inclusion is considered crucial from the viewpoint of developing a conceptual framework and identifying the underlying factors that lead to low level of access to the financial system. Financial inclusion is essential to achieving financial well-being and securing future. India has a huge, low income, rural populace with constrained access to formal banking facilities. A web of parallel informal banking emerged to fill the vacuum. At its inside was moneylenders, who used to charge over the top rates of interest. To fill the vacuum of nationalized bank and to get rid from the clutches of moneylenders the alternative way astoundingly can be the cooperative. Co-operatives are designed to help their members meet their economic and social needs and aspirations. As democratic and participatory organisations, they encourage equity and equality. As economic entities, they provide their members with commercial services. As locally-rooted institutions, they reflect their communities" concerns with social justice and the environment.

KEYWORDS

alternative way, cooperative, financial inclusion, rural development, socio-economic development.

INTRODUCTION

Defining financial inclusion is considered crucial from the viewpoint of developing a conceptual framework and identifying the underlying factors that lead to low level of access to the financial system. There is no universally accepted definition of financial inclusion. Government of India had constituted a committee in 2006 under the chairmanship of Dr. C. Rangarajan to study the pattern of exclusion from access to financial services across region, gender and occupational structure and to identify the barriers confronted by vulnerable groups in accessing credit and financial services and recommend the steps needed for financial inclusion. The committee submitted its report in January 2008. The committee has given a working definition of financial inclusion as;

"Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost." (https://en.wikipedia.org)

FIG. 1

Source: - https://en.wikipedia.org

The essence of financial inclusion is in trying to ensure that a range of appropriate financial services is available to every individual and enabling them to understand and access those services. In order to achieve a comprehensive financial inclusion, a slew of initiatives have been taken by Government of India, RBI and NABARD. Some of the important initiatives include; SHG-Bank Linkage programme, opening of No Frills Accounts, mobile banking, Kisan Credit Cards (KCC) Pradhan Mantri Jan Dhan Yojna etc.

Financial inclusion is essential to achieving financial well-being and securing future. From the above picture we can see that there many sides of financial inclusion. India has a huge, low income, rural populace with constrained access to formal banking facilities. {"Ponzi schemes show failure of formal banking". *The Economic Times*.} A web of parallel informal banking emerged to fill the vacuum. At its inside was moneylenders, who used to charge over the top rates of interest. To control this practice a few Moneylenders Acts were authorized by the State governments of India by the 1950s. {Gupta, SC; Shankar, Girish; Giridhar, A (2007)} However disappointments to supplant the role of moneylenders ascend to deceitful financial operators that worked Ponzi schemes. A few commentators put the fault for these sorts of Ponzi schemes on ravenousness as opposed to exclusion from formal banking systems.{ Chaki, Deborshi, 2013} To fill the vacuum of nationalized bank and to get rid from the clutches of Ponzi schemes the alternative way astoundingly can be the cooperative.

SIGNIFICANCE OF THE STUDY

PACS or cooperatives are playing a crucial role in improving the economic and social conditions of the common masses of India and as well as in West Bengal. They provide short-term and medium-term loan to the members/farmers at reasonable interest rates to meet their various needs. They are providing credit to the farmers for agricultural purposes at cheap and easy terms. PACS is the foundation of the Cooperative Credit System on which the super structure of the short-term cooperative credit system is built.

REVIEW OF LITERATURE

A number of studies related to performance of co-operative banking sector and Primary Agricultural Credit Societies in India have been conducted. In order to evaluate the objectives of the present study, it was felt more desirable to have an idea of the findings of some of the earlier research studies and the tools adopted therein.

Very few researches have been conducted so far with special reference to the "COOPERATIVE AS AN ALTERNATIVE WAY TO FINANCIAL INCLUSION AND HUMAN DEVELOPMENT – A STUDY IN PURBA MEDINIPUR DISTRICT" most of these researches did not adopt an integrated approach. In previous works, different aspects have been investigated and analyzed without taking notice of their inter-dependence on and relevance to other factors. Consequently, findings, too, are not virtually admissible. An attempt, therefore, has been made in this chapter to review some of the noticeable studies having direct or indirect bearing on the objectives of the present research work. Here, an attempt is being made to provide an overview of various aspects and issues of this study through the review of existing literature. Some of the main studies selected for review have been discussed below.

Kalyankar (1983) in his study titled, "Willful Default in Loans of Co-operatives" where he examined the trends in deposits, share capital, working capital, loans outstanding, advances, over dues and recoveries at the district level financing institutes. Socioeconomic factors responsible in projecting and promoting future development in the operations and approaches of the co-operative credit organizations were also considered to examine the specific progress made by Central Co-operative Bank of Parbhani District. The study revealed that the cropping intensity, irrigation facility and working capital of the societies were the major factors for explaining over dues at primary agricultural credit societies' level. The socio-economic factors were not responsible for increasing over dues at the borrowers' level, but over dues were mainly mounted due to the non-economic factors in case of willful defaulters.

D.Narayana (1993) in his article titled, "Financial Sector Reforms – Is there a Strategy for Agricultural Credit", described about the need for investment in infra-structure for turning over of the financial sector to trade and industry. On the agenda for future reform the paper list i) a complete ban on generalized loan waivers ii) effective loan recovery process iii) careful targeting of concessional lending iv) phasing out of ceiling and floors on bank deposit and lending rate. The author pointed out that there cannot be a broad based credit spread.

P.R.Sivasankar and D.Krishnamoorthy (1995) in their article, "Cooperative Finance for Agriculture in India", described the importance of cooperative credit in the post green revolution era with advanced technology and the need to supplement the traditional owned resource base. It was observed that demand for the duration of credit depended upon the nature of requirement for which it was sought. Dependence on external finance is due to the nature of return from agriculture which is seasonal; ancestral debt; uncertainties and crop failure.

P.Satish and D.V.Deshpande (1998) in their article, "Challenges before Cooperative Banks and RRBs", pointed out the major issues relating to challenges being faced by the cooperative banks and RRBs flow from the changes in the financial sector in the country. If these banks had to be effective in the changing scenario they have to be effective in the changing scenario they have to respond suitably to these changes which require appropriate strategies including those for equipping these institutions with suitable measures in the areas of HRD, technology up gradation, systems and procedures, market oriented products and services.

Satyasai and Badatya (2000) conducted a study regarding restructuring Rural Credit Co-operative Institutions. They analysed performance of rural co-operative credit institutions on the basis of borrowings and lending operations, cost structure, financial viability, etc. and found that co-operative system, in general, had failed to perform its functions properly. They advised the co-operative banks to diversify their business and also to overcome internal (rising transaction cost, declining business level, mismanagement of overdues) and external (excessive bureaucratization, politicization) weaknesses.

From the above study we can say that till now no study has been undertaken by any researcher so for as the state of West Bengal or especially for as the district of Purba Medinipur are concerned. The present study will be expected a good step in this direction.

OBJECTIVES OF THE STUDY

The precise objectives of the research work are:-

1. To evaluate the progress made by the Cooperative Banks or Primary Agricultural Credit Societies in its present role in India and in West Bengal with a comparative reference of Purba Medinipur district relying mainly on secondary data.
2. To find the potential area of intervention of Cooperative Banks or PACS in socio-economic development of members through primary survey of selected regions in District Purba-Medinipur.
3. To find the potential role of PACS as an important buffer or cooperative controller of rural market between vulnerable farmers and aggressive external agents of trade in a rural based structure.

METHODOLOGY

This paper includes the study with the help of both secondary data and primary data. The primary data on the performance and role of PACS or Cooperative in the socio-economic upliftment of the society have been done through random sampling of households in selected region with higher incidence of impact of PACS throughout the district of Purba Medinipur. Stratified analysis of the Households economic conditions according to different criterion such as MPCE (Patnaik, 1987) and Acreage (NSSO) have also been performed. Ratio Analysis and Trend Analysis of the financial data will be conducted to study of the financial position of the PACS. Apart from that various books, journals, Internet data etc. were also be consulted for this research work. Most importantly the archives of these institutions have also been consulted to highlight the political environments that are inherent in its origin and development from its very inception.

HYPOTHESIS OF THE STUDY

The objectives of the study as stated are to examine the needs of Cooperative in the present liberal economic scenario, to evaluate the progress made by the Cooperative in India and in West Bengal with special reference to Purba Medinipur district, to evaluate the role of the Cooperative in the socio-economic development of the society etc. Depending on the above objectives the following hypotheses are indicated:-

First, the progress of cooperative banks or PACS in its present form though appears to be satisfactory, requires a thorough restructuring in its basic objectives like socio-economic development of the society and so on.

Secondly, PACS may play an important role for socio-economic development of the society particularly poorer and vulnerable section of the rural area. Specifically, PACS may play a potential role as an important buffer (or controller of rural market) between vulnerable farmers and aggressive external agents of trade in an agrarian sector.

Ed Mayo, secretary general of Co-ops UK, smashes the perception that co-ops have a mere walk-on part on the world stage. "Globally co-ops employ over 100 million people, 20% more than multinational businesses, whilst the largest 300 co-ops in the world have an annual turnover of over $1 trillion," he writes. Looking at their ethical values -honesty, openness, social responsibility, and caring for others-, it's no wonder co-operatives should be leading the way towards the end of the economic crisis and the beginning of a fairer economic system. So co-operatives can move in to create a social economy rather than one based on whoever makes more money first. (The guardian, 2013, website)

CASE STUDY

To show the financial inclusion and human development through cooperative here we have depicted performance of members of the cooperative banks of the district of Purba Medinipur on the basis of primary data collected through field survey in the year 2012-13. As mentioned earlier, within the district of Purba Medinipur there are three cooperative banks Balageria, Mugberia and Tamluk-Ghatal. We have tried to assess the potential area of intervention of Cooperative Society or PACS in socio-economic development of members through primary survey of selected regions among the randomly selected members of the cooperatives that is PACS under the jurisdiction of the above mentioned DCCBs.

Unemployment is the big problem for India. Unemployment in India is a serious social issue. From 1983 till 2011, Unemployment rates in India averaged 9 percent reaching an all-time high of 9.4 percent in December 2010 and a record low of 3.8 Percent in December 2011. { Bureau of Labour Statistics, Indian Government. (8 October 2010). "Report on Employment & Unemployment Survey (2009-10)". Retrieved 29 March 2014.} There are many reasons for unemployment but the cooperative can be the best solution of unemployment. According to modeled ILO estimate employment to population ratio, 15+ total (%) for India was 54% of total population in 2012. According to primary data the condition is something better. With some tables it will be tried to discuss.

TABLE 1: EMPLOYMENT STATUS OF THE LOANEE MEMBERS

Employment Status	Loanee Members	Percent
Service	74	35.2
Self Employed	123	58.6
Unemployed	13	6.2
Total	210	100.0

Source: Primary Data

From the table 1, it is very clear that the percentage of unemployment among the respondent is very low which is only 6.2% whereas the percentage of self-employed is in highest position and the percentage is 58.6%. The survey found that cooperative in the service sector has been effective in improving employment opportunities, particular for the marginalized class of the society.

TABLE 2: JOB DETAILS OF THE LOANEE MEMBERS

Job Details	Loanee Members	Percent
Agricultural Labour	16	7.6
Agricultural Labour & Business	24	11.4
Cultivation Only	42	20.0
Cultivation & Business	65	31.0
Cultivation & Service	25	11.9
Cultivation & Agricultural Labour	3	1.4
Service	24	11.4
Business	11	5.2
Total	210	100.0

Source: Primary Data

From the above table we can observe that most of the people among the respondents are engaged with cultivation and business and the percentage is 31%. After taking loan form cooperative they invest it in cultivation, business and with help of this they can maintain their livelihood and can be independent also. Among all respondents only 7.6% people are engaged with agricultural labour and don't do any other job. This is a clear indication that cooperative is a good source of sustenance and with the help of cooperative one can survive independently. Economic freedom which is the most important freedom among all freedom can be achieved through the cooperative system.

TABLE 3: PURPOSE OF LOAN

Purpose of Loan	Loanee Members	Percent
Agriculture	119	56.7
Trade or Business	32	15.2
Household Purpose	22	10.5
Personal Loan Repayment	7	3.3
Health	16	7.6
For making house	10	4.8
others	4	1.9
Total	210	100.0

Source: Primary Data

From the above table we can see that the most of the loanee members invest their loan amount in agriculture and the percentage is 56.7 %. After investing their loan in agriculture there another category of loanee member who invest their loan in trade or business indicating their self-dependence. There are also other purposes for taking loan but their percentages are very low. Here are also another two important purposes that we have to mention. One is personal loan repayment and another is health. Generally the loanee members take their personal loan from private money lender, landlords etc and the interest of loan is very high there so after taking loan with low interest rate from cooperative they repay the loan to local money lender or landlords and get rid from their clutches. This is another way of getting free from exploitative credit sources. They also spend their loan on health purpose which is very important in current environment.

Monthly per capita consumption expenditure is the most important measures of the level of living of the respective domains of the population and is a crucial input for estimation of economic wellbeing. The detailed results of a quinquennial survey on consumer expenditure are usually brought out by the NSSO through a number of reports. According to the report of NSSO in 2011-12 the poorest 10% of India's rural population had an average MPCE of Rs.453. The poorest 10% of the urban population had an average MPCE of Rs.599. The top 10% of the rural population, ranked by MPCE, had an average MPCE of Rs.2517. The top 10% of the urban population had an average MPCE of Rs.5863. The MPCE in West Bengal, for rural areas it is Rs. 952 and for urban areas it is Rs. 1965. The average rate of MPCE for all-India, for rural areas it is Rs. 1054 and for urban areas it is Rs. 1984. {***Ministry of Statistics and Programme Implementation, National Sample Survey Office, KEY INDICATORS OF HOUSEHOLD CONSUMER EXPENDITURE IN INDIA, 2011-12, website}***

TABLE 4: MONTHLY PER CAPITA CONSUMPTION EXPENDITURE (TOTAL)

MPCE (In Rs.)	Loanee Members	Percent	Average MPCE (in Rs.)
below 1000	63	30.0	727.43
1001-5000	119	56.7	2127.65
5001-1000	26	12.4	7156.23
above 10000	2	1.0	12978.93
Total	210	100.0	22990.24

Source: Primary Data

According to NSSO in 2011-12 the poorest 10% of India's rural population had an average MPCE of Rs.453 and the poorest 10% of the urban population had an average MPCE of Rs.599 whereas according to primary data who are the member of cooperative their minimum average of monthly per capita consumption expenditure is Rs. 727.43. From above table we can see that 56.7% respondents' minimum MPCE is Rs. 1001 and average MPCE in this category is Rs. 2127.65. Here one interesting thing is that there are also 1% people whose MPCE are more than Rs.10000. So from the above data it is very clear that who are associated with cooperative they are more eligible to continue their healthy livelihood than the others people of the society.

TABLE 5: MONTHLY PER CAPITA EXPENDITURE FOR FOOD

MPCE for Food (In Rs.)	Loanee Members	Percent	Average MPCE
can't say	8	3.8	NA
below 1000	115	54.76	564.07
1001-5000	84	40	1336.2
5001-10000	2	.95	7253.3
above 10000	1	.48	13926.5
Total	210	100.0	23080.08

Source: Primary Data

Increases in the cost of food often leads to changes in the quantity and type of foods that are purchased. This may result in a reduction in the amounts of foods consumed and/or the substitution of higher priced foods for less expensive foods which are often less nutritious. A household is considered food secure when its occupants do not live in hunger or fear of starvation. Attaining food security is a matter of prime importance for India where more than a-third of its population is estimated to be absolutely poor, and as many as one half of its children have suffered from malnourishment over the last three decades. According to NSSO, monthly per capita food exp. (Rs.) of India was Rs.600 in 2009-10 and for West Bengal it was Rs. 604 during the same period. For the average rural Indian, food accounted for 52.9% of the value of consumption during 2011-12. For the average urban Indian, 42.6% of the value of household consumption was accounted for by food during the same period. As has been stated in the above table based on monthly per capita consumption expenditure for food, among the respondents who are the loanee members of the cooperative, minimum average of consumption expenditure for food is Rs. 564.07. Among the respondents very few percent people are there whose expenditure for food is above Rs. 5000 or Rs.10000 though the percentage is very low but among the respondents 40 % people whose expenditure is more than Rs. 1000 are also there. Agriculture – farming, forestry, fisheries and livestock – is the main source of employment and income in rural areas, where most of the world's poor and hungry people live. Cooperatives play an important role in supporting small agricultural producers and marginalized groups such as young people and women. They empower their members economically and socially and create sustainable rural employment through business models that are resilient to economic and environmental shocks. Through this support, smallholder producers secure their livelihoods and play a greater role in meeting the growing demand for food on local, national and international markets, thus contributing to poverty alleviation, food security and the eradication of hunger.

Education is perceived to be a vital source of human development. It helps a person to show their best by their mind and spirit. It gives a lot of knowledge in whatever aspects. Education plays a vital role in the success and in the personal growth. According to primary data, MPCE on education of the loanee members of the cooperative has in a good stratum. With a table it can be explained properly.

TABLE 6: MONTHLY PER CAPITA EXPENDITURE FOR EDUCATION

MPCE on Education (in Rs.)	Loanee Members	Percent
can't say	56	26.7
100-500	61	29.0
501-1000	40	19.0
1001-5000	23	11.0
5001-10000	30	14.3
Total	210	100.0

Source: Primary Data

According to NSSO Monthly per consumer expenditure on education (rural) was Rs. 200 for all India and Rs. 170 for West Bengal in the year of 2009-10. From the above table it can be observed that the condition is not so poor for our respondents, among all respondents 14.3% respondents' expenditure on education is more than Rs. 5001. From above discussion we can say that among cooperative members educational level is quite formidable.

Generally, the context in which an individual lives is of great importance for both his health status and quality of their life. There are a lot of types of health issues common with many people across the globe. Achieving and maintaining health is an ongoing process, shaped by both the evolution of health care knowledge and practices as well as personal strategies and organized interventions for staying healthy. Personal health depends partially on the active, passive, and assisted cues people observe and adopt about their own health. These include personal actions for preventing or minimizing the effects of a disease, usually a chronic condition, through integrative care. {Wikipedia + Health, website}

TABLE 7: MONTHLY PER CAPITA EXPENDITURE FOR HEALTH

MPCE for Health (In Rs.)	Loanee Members	Percent
can't say	32	15.2
less than 100	19	9.0
100-500	44	21.0
501-1000	39	18.6
1001-5000	76	36.2
Total	210	100.0

Source- Primary Data

According to WHO the Yearly Per capita Expenditure for the purpose of health in India was 61$ or approximate Rs. 3300 in 2012. From the above table we can see that among the respondents 36.2% people's monthly expenditure for the purpose of health is Rs. 1001 to 5000. From above discussion we can say that who are related or engaged with cooperative they can support for themselves to get rid from the chronicle diseases.

The Planning Commission has declared new poverty line for rural and urban areas in 2013. It is Rs 27 a day for rural areas and Rs 30 a day for urban areas. Just a year ago when the Commission suggested a poverty line of Rs 22 a day for rural areas, there was a national outrage over it. Subsequently, government scrapped the poverty estimate based on a survey carried out in 2009. The current estimate is based on survey carried out in 2011-12. According to the new estimate, some 216.5 million people in rural areas are poor while 52.8 million in urban areas are poor. This means out of the country's total population, 269 million people survive on Rs 27-30 a day. Going by the press note released in 2013 by the Planning Commission, poverty level has shown steepest ever fall in recent history. Since 2004-05, coinciding with the UPA's ascent to power, 138 million people have escaped the poverty trap. In rural areas the dip in poverty is stark: there were 326 million poor in 2004-05; in 2011-12 the number fell to 216 million—a decline of 110 million. {downtoearth + Indias-new-rural-poverty-line-rs-27-day, website}

But according to our survey we found that the conditions of BPL members of cooperative of our survey area have in good position. With a table it can be explained properly.

TABLE 8: CROSS TABULATION BETWEEN POVERTY LEVEL AND MPCE

Poverty Level	MPCE (in Rs.)								Total
	below 1000		1001-5000		5001-10000		above 10000		
	Members	Average (in Rs)	Members	Average (in Rs)	Members	Average (in Rs)	Members	Average (in Rs)	
APL	33	838.02	68	2576.67	1	5864	2	12118.26	104
BPL	30	613.27	51	1528.95	25	7207.92	0	0	106
Total	63	1451.29	119	4105.62	26	13071.92	2	12118.26	210

Source: Primary Data

From the table 8 it is much cleared that average of minimum Monthly Per Capita Consumption Expenditure of BPL is Rs. 613.27. Here one very interesting thing is that there are 25 BPL respondents whose MPCE are more than Rs.5000. It is understood that cooperatives provide a model for pooling resources of people of limited means to achieve commonly identified development needs of the respective people.

COOPERATIVE AS AN ALTERNATIVE INSTITUTION FOR HUMAN DEVELOPMENT: A QUALITATIVE ANALYSIS

Gandhiji envisaged that each village in India would be a republic, where the village panchayat would have the full power of managing its affairs, including defence. He expected the panchayat to perform the legislative, executive and judicial functions necessary for smooth functioning of the village economy. Various developmental activities such as education, health and sanitation would also be taken up by the village panchayat. But this institution means panchayat is not enough for all this because political unwillingness, corruption and partiality are also there. So we have to now think about an alternative way to the panchayat.

Gandhiji saw a great virtue in cooperation as an instrument of rural development. He assigned specific roles to cooperatives in the field of agriculture, commending the promotion of cooperative farming and thereby preventing further fragmentation of landholdings. He also advocated the establishment of other types of cooperatives, such as credit cooperatives, weavers and spinners' cooperatives and dairy cooperatives. India now has the world's largest network of cooperatives, which occupy an important place in India's rural economy. { Singh, Katar, Rural Development: Principles, Policies and Management, 1999}

TABLE 9: REASON FOR DOING BUSINESS WITH PACS

Reasons	Loanee Members	Percent
Time and Flexibility in Working	170	81.0
Members who are involved in Management	7	3.3
Freed from the clutches of the usurers	11	5.2
Members who repay loan of usurers after taking loan from PACS	7	3.3
Above mentioned all	15	7.1
Total	210	100.0

Source: Primary Data

PACs have a much wider reach than any institution in rural areas. From the above table we can see that 81% respondents are ready to do business with PACS because of time and flexibility. The most interesting thing is that to get rid from the clutches of usurers 5.2% and 3.3% respondents are ready to do business with PACS. No other institutions can help the poorer section of the society like PACS.

PROBLEMS

Notwithstanding quick development the general advancement of cooperative movement amid 100 years of its presence is not exceptionally great. It is in this way to know the reasons for poor execution of the movement and on that premise make such strides as would advance a speedier development of cooperative movement in India. {Rubina Antao on Jan 07, 2010, website}

a. **Government Interference:** Right from the earliest starting point the govt. has received an attitude of disparaging the cooperative movement. Cooperative institutions were dealt with as though these were a vital part of the regulatory set up of the administration of the government. The govt. interference therefore turned into a fundamental component in the working of these foundations. Accordingly people's excitement for the movement did not develop. The movement's independence and self-reliance existed just on paper and records. After achievement of freedom specifically in the wake of start of the planning, some solid changes in the state of mind of the govt. did happen. It was not given fitting significance that it deserves in any plan. Yet, even the cooperative movement has not turned out to be undeniable people's movement. Indeed, even today regularly cooperative societies are forced upon the members. This does realize an increment in the membership of the societies. Be that as it may, the spirit of cooperation can't blossom completely in these circumstances. Neither it development occurred by plan nor did it turn into a people's movement. It just became gradually and that too heedlessly. {Rubina Antao on Jan 07, 2010, website}

b. **Mismanagement and manipulation:** The pith of the cooperative movement is that it gives the members the status of shareholders and guarantees them financial facilities. The relationship between the shareholder members and the cooperative is straightforward. The strength of the movement was association of the members. Throughout the years, this genuinely democratic idea got corrupted and the board members with bigger holdings became all the more powerful. By and by, this altered the power structure of the cooperatives. In the elections of the governing bodies of the cooperatives is a political factor.

c. **Lack of Awareness:** Members are not very much educated about the objectives of the movement, the contributions it can make in modifying the society and the rules and regulations of cooperative institutions. Unfortunately, no exceptional endeavors have been made in this bearing. People look upon these institutions as means for acquiring facilities and concessions from the govt. Inasmuch as people hope to get something from the govt.; they see to it those societies by one means or another keep on working. Lack of knowledge, grimy politics of the village, caste ridden elections to the workplaces of cooperative societies, bureaucratic attitudes of the govt. officers at the lower rank are a portion of the obstacles in spreading the right data about the cooperative movement and in educating the people about its actual character and vital role in the society.

d. **Functional Weakness**: The cooperative movement has experienced insufficiency of trained staff right from its initiation. Absence of trained staff has been created by two main factors. In first, there has been an absence of organizations stronghold this reason for preparing faculty. Besides in view of it unsatisfactory working of cooperative organizations, effective faculty did not feel pulled in or roused towards them. The working of the cooperative societies, too experience the ill effects of a few shortcoming. Some of these are, taking no consideration of the need of credit seekers or their reimbursing limit at the season of giving loans, making no sufficient procurement for the return of credits, unsuitable keeping of records, factional politics in it management, absence of coordination among different divisions of the cooperative structure, a lot of reliance on outside wellsprings of finance, absence of adequate auditing. Such shortcomings have kept them from advancing on healthy lines. Thus there are several pitfalls. Poor infrastructure, absence of quality management, overdependence on government, torpid membership, non-conduct of elections, need of solid human resources strategy, disregard of professionalism, and so forth are the limiting elements. Indian cooperatives are additionally not able to develop solid correspondence and public relation methodologies which can advance the idea of cooperation among the masses.

CONCLUSION

From the above discussion, we can say that as organisations of people, co-operatives are designed to help their members meet their economic and social needs and aspirations. As democratic and participatory organisations, they encourage equity and equality. As economic entities, they provide their members with commercial services. As locally-rooted institutions, they reflect their communities" concerns with social justice and the environment. Hence it is not surprising that the United Nations Secretary-General, in a 1994 Report to the General Assembly, concluded that "co-operative enterprises provide the organisational means whereby

a significant proportion of humanity is able to take into its own hands the tasks of creating productive employment, overcoming poverty, and achieving social integration". {uwcc + sustain, website}

In a background paper prepared for the UN World Summit on Social Development in Copenhagen in 1995, the United Nations commented further on the dimensions of the international co-operative movement: "A total of 740 million women and men are currently members of co-operative business enterprises associated through national federations and unions which are members of the International Co-operative Alliance. It is estimated that the total number of co-operators is 800 million persons worldwide, with a further 100 million persons employed by co-operatives. Moreover, because the co-operative enterprise has economic significance not only for members and employees, but also for their immediate families, the total of persons whose livelihoods are to a significant extent made secure by co-operative enterprise approaches three billion people, half of the world's population." {Co-ops & Human Sustainable Development: Global Perspective, website}

The basis of co-operative success is that they provide economies of scale. They provide an institutional means whereby individual people can group themselves into self-help units. Through their support structures at the secondary and tertiary levels, they provide common services and generate income in a way that would not otherwise be possible. Above all, co-operatives generate increased income for their members. Co-operatives have been seen by governments as instruments to be used in the pursuit of national objectives. As locally-based institutions, co-operatives are naturally concerned about the communities in which their members live. So cooperative all time is there not for personal gain but this is an opportunity for its members who are generally belong to poor class.

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IMPACT OF INDIAN MACRO ECONOMIC DRIVERS OF EMPLOYMENT GROWTH AND PATTERN

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ABSTRACT

According to Keynes, macroeconomic drivers are very efficient to increase the employment opportunity in any country. It means macroeconomic drivers and employment pattern are inter-related to each other. This paper focuses the major macroeconomic drivers and outcomes on employment experienced by Indian economies in future period. Infrastructure, Power, Retail, Health and Education, etc. are the major determinants of macro- economic drivers while macroeconomic outcomes refer to the patterns of employment opportunities, investment, saving, and growth of human living standards. This paper studies the impact of macroeconomic drivers on employment availability. Last two decades, economic performance of India has excessively focused on the high rate of economic growth. In recent years, Indian economy has been achieved high rate of GDP that was triggered off by economic reforms in since 1991 and has been stable over the years. Any factor or phenomenon which reduces the growth rate is likely to view as a threat in the process of economic development of the country. India became urbanized during the first decade of the twenty-first century and cities are not just growing but also changing rapidly. As a part of modernization push, Indian middle class society is changing their taste and attracts lots of foreign investment. Definitely, modernization of societies provokes a high class of transport system, shopping malls, better power supply and good livelihood. There are many cities facing the problem of industrialization due to movement of factories from urban to rural. It has a strong impact of these trends on urban and rural employment in India. This paper analysis some major drivers of economy and its impact on growth of employment.

KEYWORDS

GDP, employment, economic driver, economic growth.

INTRODUCTION

Indian economy has achieved the growth rate of more than 7% per annum during the first decade of 21st century. Growth rate of GDP has increased after economic reform during 1991. But, there is no match between growth rate of output and employment. Indian economies identified first time this problem in beginning of 1991 when generation of aggregate employment fell significantly. Since 2001, employment generation has picked up but it has not achieved sufficient rates which was in the late 1990 and early 1981. Overall growth rate of employment between 2001 to 2007 was 2.95% per annum. During this period, the labour force participation rates for adult men and women (aged 30+) increased slightly while the labour force participation rates for young men and women (aged 15-29) declined. Between 2005 and 2010, there was a marked deceleration in total employment growth, from an annual rate of around 2.85 per cent in the previous five-year period to only 0.2 per cent. During this period, the labour force participation rates for all men and women (aged 15+) declined, especially for women (from 42% to 32%). The labour force includes both those who are actively engaged in work and those who are unemployed but actively seeking work. Over the decade, the overall unemployment rate decreased slightly from 2.4 per cent in 1999-2000 to 2.1 per cent in 2010-2011. But while the unemployment rate for men decreased from 2.6 to 2 %, the unemployment rate for women increased from 1.8 to 2.4% Particularly striking were the different patterns of employment across the decade. Between 1999-2000 and 2004-2005, there was a significant decline in all forms of wage employment. For some time, regular wage employment as a share of total employment had been declining in India. Over this period, casual wage employment as a share of total employment also declined. This was accompanied by a very significant increase in self-employment in India. This was true not only in agriculture and rural areas but increasingly in non-agricultural activities and urban areas. By 2005, around 57% of the total workforce and 45% of the urban workforce was self-employed. But, according to 2010-2011 data, these trends appear to have reversed during the second half of the decade. Within the overall slow-down in employment growth, self-employment has decreased for both men and women in both rural and urban areas. Casual work has increased in rural areas, especially for men but also for women. Regular employment has increased marginally in urban areas for both men and women. Several explanations have been posited for this reversal in employment trends. First, the substantial increase in the number of persons engaged in education, especially among those aged 15 to 24 years, means that more young men and women remain "economically inactive" because they are still in school or because they are waiting for good jobs as education has changed their aspirations. But the increase in the education rate, while very welcome, cannot by itself fully explain the dramatic slowdown in employment rate. Second, the decline in self-employment is linked to the decline in agricultural employment. But there has also been a marked deceleration in non-agricultural employment. Third, the global economic crisis led to a decrease in exports which led, in turn, to a decrease in export linked employment especially in manufacturing. But export-linked employment represents only a small share of total employment.

India has emerged as a strong economy over the years. The recent global financial and economic crisis had an impact on India's economic growth momentum during FY09. However, the economy has been remarkably resilient against shocks such as turmoil in the global and domestic financial markets, severe drought conditions and hardening international crude oil prices, sustaining its GDP growth. It has managed to escape relatively unscathed from the global economic turmoil owing to strong fundamentals, which would continue to drive its growth. Thus, it is important to undertake integrated efforts to further strengthen these fundamentals and fulfill the aspiration of achieving a strong growth in future. Strong growth can only be achieved through realization of full-growth potential of some key growth areas. This section seeks to identify potential employment growth drivers that could stimulate growth and drive the Indian economy on a high and sustainable growth path. Any assessment of the employment performance of the Indian Economy is not meaningful without an analysis of the structural dimensions of employment. These dimensions define and determine the substantive meaning of employment in terms of its nature and quality. Only a small segment of the workforce is employed on a regular basis at reasonable levels of wages and salaries. A large part is self-employed in agriculture which continues to be the major source of employment and livelihood for majority of the Indian workers. And an overwhelming majority works in what is called the unorganized or the

informal sector. These qualitative dimensions are, of course, interrelated and reinforce each other in the direction of keeping the quality of employment low. We look at these aspects of employment particularly focusing on the nature and extent of structural changes that have taken place in the recent decades, in this section. Further, Government of India (GoI) and the private sector need to undertake necessary integrated efforts to strengthen these growth drivers and achieve high GDP growth.

LITERATURE REVIEW

Economic growth and Employment pattern are very emerging issues in research and there are several authors who wrote about their opinion on macroeconomic drivers. In 2006, services contributed 69 per cent of total world output (World Bank 2009), while the sector's share in employment was 43.3 per cent in 2008 (ILO 2009). The case of India is not different from the global picture, with services contributing 56 per cent of GDP in 2012-13. A steady increase is also noted in service's share in foreign direct investment (FDI) and trade flows. While there is a general optimism regarding India, a few questions are raised regarding the sustainability of the growth process. An important criticism of the disproportionate relationship between income and employment generation in services was noted even in the 1980s (Mitra 1988; Mazumdar 1995). Further, the increase noted in services income prior to industrialization (Mitra 1988) has also raised doubts on the sustainability of the growth process. Such predominance of services growth was attributed to the de-industrialization pursued in British India (Bagchi 1982), unprecedented increase in governmental activities, demonstration effect creating demand patterns similar to that of high income countries (Panchamukhi, 1986) and also urbanization (Mitra 1992). Concerns were also raised about the wide divergence in the growth of services output from that of the commodity producing sectors and its implications on inflation, income distribution and balance of payments (Bhattacharya and Mitra 1990). Previous attempts made to assess the sources of economic growth in the Indian economy using econometric techniques confirm the role of the service sector (Panagariya 2004; Rodrik and Subramanian 2005; Nayyar 2006: Rakshit 2007; Balakrishnan and Parameswaran 2007). Studies based on the input -output transaction matrix also indicate a steady increase in services per unit of output generated in the economy (Hansda 2003; Bhowmik 2003). There were also attempts to identify reasons for the growth of the Indian service sector. The study by Gordon and Gupta (2004) indicates that high income elasticity of demand for services; technological advancement and trade liberalization are the important factors that have influenced services growth in India. The study further notes that sectors like communication services, financial services, business services and community services (health and education), which were open to FDI, external trade and private ownership, were the ones that experienced faster growth during this period. The growing use of services input in manufacturing sector, which increased from 0.06 per cent in the 1980s to 2.07 per cent in the 1990s, is another reason pointed out for the increasing share of services in the Indian economy (Banga and Goldar 2007). For instance, it is pointed out that the quality of income data is especially poor in the private corporate sector and the unorganized services (Shetty 2007; Sharma et al., 2007; Saluja and Yadav 2007) while practical difficulties in arriving at value adding at each stage and in finding appropriate price deflators in services are also noted (Nagaraj 2009). Although still predominantly rural, the share of the Indian population living in urban areas increased from around 28 % (290 million) in 2000 to around 32 % (340 million) in 2008 and is expected to increase to 40 per cent (590 million) by 2030 (McKinsey Global Institute 2010).

SOURCES OF DATA AND METHODOLOGY

The study attempts to understand the employment pattern of India and focus on various macroeconomic drivers which play a major role. Data has taken from both primary and secondary data sources. For data related to income & employment pattern, the study relies on National Accounts Statistics published by Central Statistical Organization (CSO) for all India figures and Economic Review published by Ministry of Finance. To understand the changing structure of employment, quinquennial Employment and Unemployment Rounds conducted by the National Sample Survey Organization for the various years. To understand the trends and patterns in services income and employment, data is analyzed at the disaggregated level using standard quantitative tools. To understand how private capital influences the growth of services, an in-depth study of health, education and infrastructure sectors. For the purpose, a variety of data sources are consulted that included departmental publications of the different departments

MACRO ECONOMIC DRIVERS

The following section elucidates macro-economic drivers of India's economic growth:

INFRASTRUCTURAL INVESTMENT

Sustained increase in infrastructure is expected to be one of the crucial factors for sustaining strong growth during the current decade. Significant investment in physical infrastructure will also lead to employment generation, increased production efficiency, reduction in cost of doing business and improved standard of living. Infrastructure investment (as measured by Gross Fixed Capital Formation) is expected to surge to 12.1% of GDP by FY20 from 7.0% of GDP in FY11. Rising demand for infrastructure facilities, given the rapid growth in urbanisation, bulging of the middle class and an increasing working-age population, would engender substantial increase in infrastructure investments during the current decade. Apart from development of infrastructure facilities in existing cities/towns, increased focus is expected on infrastructure development in new townships/rural areas. Regional-urban development plans will be made to identify new growth corridors. It is a substantial rise in rural infrastructure development, which will provide further impetus to economic growth in rural areas, in turn resulting in significant reduction in unemployment. Increased investment in rural infrastructure will benefit the rural population through higher income, rise in employment opportunities, and lower cost of basic goods due to improvement in transportation facilities. Nonetheless, improvement in rural infrastructure will need to be properly targeted to benefit the rural poor.

EDUCATION AND CONSULTING

Although literacy rates in India have increased considerably, from 18.0% in 1951 to 65.0% in 2001 and 74.0% in 2011, they are far below the UMI (upper-middle income) reference level of 95% and vary substantially among males and females as well as urban and rural regions. Nonetheless, the projected increase in per capita income, government schemes such as mid-day meals, availability of schools within habitation and incentives for attending school (like providing textbooks and uniform, etc) are expected to result in a higher enrollment ratio, especially in case of girls, and in turn help increase the literacy rates by 2020. Moreover, dropout rate at primary level are expected to decline further. Apart from primary education, higher as well as vocational education is expected to assume significance in the current decade. The Eleventh Five Year Plan which envisages large expansion in higher education by setting up 1455 new educational institutions comprising central universities, IITs, IIMs, NITs, IISERs, SPAs and Polytechnics is expected to provide further boost to higher education in India. In view of rising demand for education services at all levels, requirement of teachers is expected to increase substantially in the current decade. The training of increasing number of teachers, in turn, will require a large number of teachers' training colleges. Development of education infrastructure is expected to remain the key focus in the current decade. In this scenario, infrastructure investment in the education sector is likely to see a considerable increase in the current decade. The public expenditure in education is expected to increase to 3.9% of GDP by FY20, compared with 3.0% (budget estimates) of GDP in FY11. Private expenditure on education is also expected to increase substantially in the current decade. While we expect substantial progress on education front, some areas of concern will remain. These mainly include; wide variation in enrolment, attendance and actual coverage of children, cumbersome procedures for releasing of funds by states, shortage of trained teachers, inadequate monitoring and management structures, etc. Education sector continued to contribute significantly to the employment base of the country during the last Quarter of 2009. The sector is expected to grow at similar rate during the end couple of Quarters of 2011. However, the expectation regarding growth for the entire calendar year of 2011 is slightly lower compared to the first two Quarters of the year. The regulatory ambiguity still remains the biggest impediment that holds back the sector's transformation into one of country's largest industry segments. Going forward, Venture Capitalists and Private Equity players will have a role to play in the expansion of this sector. A distinct shift can be observed in the approach of the students and their parents. The tendency to opt for job oriented education, rather than the general educational streams, has given immense opportunity to the private players. Currently Education sector is moving forward to a trend of increment with .5% to 1.1%. The Education, Training and Consulting sector is expected to add 107,500 jobs in 2012.

ENERGY SECTOR

In view of the rapid growth in urbanization and industrialization, total demand for power is expected to increase substantially during the current decade. This will require substantial increase in the power generation capacity and in turn infrastructure investments in this segment. As per Investment Commission of India, more

than 78,000 MW of additional power generation capacity is being planned during the current decade including set up of 9 Ultra Mega Power Projects with power generation capacity of 4,000 MW each. Considerable investments are also expected in the transmission & distribution network (including an additional 60,000 circuit km of transmission network expected by 2012) during the same period. Substantial capacity addition in generation & transmission of electricity will require significant investments. We expect infrastructure investment in the electricity sector to grow at CAGR of around 20.0% during FY11-FY20 and it will account for 4.3% of GDP FY20. Moreover, permission for 100% FDI for generation, transmission & distribution of electricity coupled with incentives such as income tax holiday for a block of 10 years in the first 15 years of operation, waiver of capital goods and import duties on mega power projects are likely to attract private investment in this segment.

The Energy sector has remained weak during 2009-10 though marginal improvement was noticed as compared to the previous quarter in terms of employment generation. The expectations, as reported by the companies for the next two Quarters, as well as for the entire 2011, show us stable growth in employment in spite of many encouraging policy announcements. The IIP for Electricity and Coal has posted significantly lower growth rates from April to December 2010, compared to the same period of 2009-10. Amongst the energy sub-sectors, only crude oil has registered an impressive growth of more than 11 per cent during April to December 2010 as compared to -1.4 per cent during the same period of 2009-10. Petro products have also posted a positive growth of 0.8 per cent against minus 1.2 per cent of the previous year. A 61% hike proposed by the Union Budget 2011-12 for the Renewable Energy sector should work as a booster for the Green Energy companies. This is mainly due to the increased thrust being given to Solar Energy utilization under the Solar Mission. The proposal from the Government to spend Rs. 5 billion to set up Solar, Small Hydro and Micro Power projects in the Ladakh region of Jammu and Kashmir may also work as a boosting factor if implemented. The Central Ministry of Power has set an ambitious plan of "power for all by 2012". The plan requires that the installed power generation capacity to be increased form current 147,402 MW to 200,000 MW by 2012. This should provide some impetus to the sector, to grow at a higher level and generate new employment opportunities. Funding for renewable energy projects is expected to become easier in India as banks and private equity investors begin to look at clean energy projects as viable business propositions to invest in. With inherent advantages such as engineering talent and low-cost manufacturing, India has the potential to be a leader in the clean technology industry. The Energy sector is expected to add 24,900 jobs in 2012. It shows a growth rate of 1.5% to 2.8 % in coming financial year.

TRANSPORTATION SECTOR

With a growing population in India, demand for road transport would increase further by 2020. While state highways are expected to link most districts in the country, all-weather rural roads are expected to provide access to the furthest outlying villages. Moreover, construction of the golden quadrilateral, Delhi-Mumbai-Chennai-Kolkata-Delhi, is expected to help link these metros and other northern, southern, western and eastern cities by 2020. A massive 10-year programme (2005-15) has been implemented by National Highway Development Project (NHDP) in a phased manner with an investment of Rs. 2356.90 billion including the completion of the works under NHDP Phase I and II, up gradation of 12,109 km of national highways on Build, Operate and Transfer (BOT) basis in Phase III, widening of 20,000 km of national highways to two lanes with paved shoulders in NHDP Phase-IV, six-laning of 6,500 km length of selected national highways in Phase V, development of 1,000 km of expressways under NHDP Phase-VI and construction of 700 km of ring roads in major towns and bypasses and construction of other standalone structures giving a boost to the development of roadways. This, along with Ministry of Road Transport and Highway's decision to accelerate implementation of National Highways to achieve a completion rate of 20 kms of highways/day will require substantial investment in road infrastructure. This translates to a 35,000 km at the rate of 7,000 km per year during 2009-14. Further, a larger amount of population is expected to move toward 'own car travel'. However, substantial investments for creation and/or improvement in mass/public transport systems could help reduce the use of vehicles on roads in major metro cities. Various infrastructure development projects in the transport sector will require increased amount of investments. While GoI will continue to be a major source of funds (especially for construction of rural roads), private sector participation in development and operation of transport infrastructure (especially in the urban area and inter-state highway projects) is expected to increase substantially. GoI is already making efforts to attract private investment by offering projects on Build Operate and Transfer (BOT) basis. It has taken various policy initiatives that are likely to result in increased participation of private players in road construction projects. Moreover, internal generation of resources by transport services is likely to increase by 2020. Indian railways during the current decade, According to the Ministry of Railways' estimates, demand for passenger and freight services would surge, which would require expansion of 25,000 kms of new lines by 2020. The Ministry of Railway has already initiated rail connectivity projects in north eastern states and Jammu & Kashmir at an estimated cost of Rs. 280 billion. With the railway network spread to the furthest regions of the country (especially in north eastern parts), rail freight traffic is expected to increase substantially during the current decade. Manufactured products would account for a larger share in bulk cargo while a larger proportion of liquids would be transported through pipelines. The Transportation sector is expected to add 93,000 jobs in 2011. It would make a trend of growth in employment 1.3% to 2.2% in coming year.

CONTRIBUTION OF AGRICULTURAL SECTOR

Although the share of agriculture sector in GDP is expected to decline further to around 9.2% by FY20, its significance in sustaining India's growth momentum is expected to remain unchanged. Going forward, growth in agriculture needs to be sustained not only for ensuring national food security but also for achieving the government's key objective of inclusive growth. Furthermore, in view of the projected rise in population and income (especially of non-agricultural workforce), huge demand in agriculture and agro-processing industries is expected. As per the 'Agriculture Policy Vision 2020', there would be around 2.5 mn tonnes in additional demand for food grains annually, while significant supply increases will be needed for livestock, fish and horticulture products as well. the agriculture sector is expected to record 4.3% growth during FY11-FY20, facilitated by growth in agriculture sector investments. Investment in agriculture sector is expected to grow to around 3.8% of GDP by FY20 as against 2.6% (E) of GDP in FY11. The rise in agriculture sector growth could also be achieved through improvement in total factor productivity while maintaining a relatively lower agricultural investment rate. Total factor productivity in agriculture can be improved through investments in irrigation, infrastructure development (such as road, electricity, supply chain and storage, etc), research and development activities in agriculture and agro-processing and efficient use of water and fertilizers. Although considerable progress has been made in terms of irrigation, substantial investments in irrigation projects will be required to accelerate growth in the agriculture sector. Availability of adequate, timely and assured irrigation for crops will help shield the sector from the vagaries of monsoons, in turn leading to enhancement of land productivity in dry and rain-fed regions. Hence, an increased focus on development of irrigation facilities is expected during the current decade. Development of irrigation facilities will largely be funded through public investments, while private investment in irrigation will continue to be in wells, overhead tanks, check dams, ponds and water lifting devices as these have short gestation periods. Currently, there are 169 major irrigation projects and 219 medium irrigation projects under implementation throughout the country, which will bring about substantial increase in irrigated area during the current decade. While significant investment is expected in irrigation facilities, timely and effective implementation of irrigation projects coupled with people participation will be vital to achieve the desired objectives. In addition to development of irrigation facilities, increased investment in technology, especially information and communication technology (ICT), will help drive agriculture growth. The adoption of ICT is expected to facilitate agricultural advisory services round the clock.

CONCLUSION

It is estimated that more than 250 million people will be migrant during 2011 to 2030 from rural area to urban area due to increase in unemployment condition in India. The prospective employment in India is not good in current fast expanding urban population. It is a fact that high rate of economic growth and high employment growth are mismatch, so it is known as "jobless growth". A brief account of the performance of different sectors as attempted earlier, however, shows that but for the almost negligible growth in agriculture, employment growth in non-agricultural sector has not really been jobless. Yet, employment elasticity's have declined in most sectors, though in some sectors like construction, trade and transport, they continue to be relatively high. And a faster growth of these sectors will lead to an increase in overall employment growth. Their share in employment, however, is still small as compared to manufacturing which have shown a relatively low employment growth and low and declining employment elasticity. For example, its export-oriented subsectors have recently experienced higher employment growth and employment elasticity. During the 2001 employment in the export-oriented industries grew at 3.41 % per annum and showed an employment elasticity of 0.48. Employment growth is a function of growth of GDP and employment elasticity. Indian economy has sustained a relatively high

growth of over 6 per cent for about two decades and is expected to grow at that, if not a higher, rate in coming years. There are indications towards reversal of the declining trend in elasticity's, particularly in manufacturing and expectations of a growth structure in which sectors with higher employment elasticity will grow faster. There is, therefore, a strong likelihood of growth rate of employment getting restored to over 2% during the first decade of this century. In fact, the evidence from the limited sample survey of the NSSO suggests a reversal of the trend already during the 2010-2011 when employment growth is estimated to be around 2.70 per cent.

The recent experience, however, suggests that most of the new employment opportunities are likely to be generated in the unorganized sector and will be characterized by poor conditions of work, and lack of employment and social security. Even within the organized sector an increasing number of workers are being employed in a 'flexible' manner on casual or contract basis, without the social security benefits available to regular workers. And, also, the problem of the 'working poor', namely, of those fully engaged in work, but earning less than the poverty line income, will persist. Thus the challenge of quality of work, in terms of earnings and social security will continue. Indian Government should focus on following areas to develop the employment rate:

- Foreign Direct Investment retail chain
- Development of Infrastructure & more focus on transportation power supply
- Development of Big Food Parks
- Focus on Horticulture
- Promotion of new farming technique.
- Adequate forecasting technique of weather.
- Promotional activities for agricultural marketing.

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AN ACCURATE HEALTHCARE COST PREDICTION USING VOTE BASED CLASSIFICATION TECHNIQUE

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ABSTRACT

While the population growth rate for India has gradually gone down, it is still at over 1.3 percent and is not likely to go below one percent in the near future. Also, it is fascinating to note that our population aged above 60 years is likely to grow to around 193 million, compared with over 96 million in 2010. This transformation in the population pyramid is expected to fuel the demand for healthcare in general, particularly lifestyle diseases.

KEYWORDS

healthcare scenario, health cost prediction, Indian healthcare and lifestyle.

1. INTRODUCTION

HEALTHCARE SCENARIO

Being healthy is a requirement for a worthy breathing and a vital component to achieve countless things on world. With growing life expectation, an average Indian is now enthusiastic to involve in dynamic work much beyond his or her leaving age. But with exposure to contemporary ills and acquainted to a new routine, one cannot keep off visiting hospitals as a range of illnesses is bound to take a toll on the health system. The irony in the healthcare delivery is quite stark in India.

The progression of a country is not just about scheming it's industrial, agricultural and services balance sheets. It is equally about scheming its monotonous on the human growth indices. The state of its healthcare is one of the serious methods of how a homeland state is acting. For a country the size of India, that is even more significant.

The Indian healthcare productivity is all set to raise to over USD 280 billion by 2020, which is an evolution of over ten times from 2005. This development has been determined by several factors, including demographics, increase in awareness levels and approachability of medical care in India.

Overall health care expenditure in the United States went from $1.5 trillion in 2001 to $2.9 trillion in 2013, with a forecast of expenditure $4.8 trillion in 2021.1 "By 2023, health care spending will account for nearly a fifth of the annual Gross Domestic Product (GDP), at 19.3%, up from 17.2% in 2012."2 The U.S. is on a health care spending spree that out-paces most other develop countries and has one of the highest amounts spent on health care in relation to the GDP. In addition, the U.S. has the most expensive health care system in the world, yet ranks last amongst ten other modernized countries in overall quality, safety and access.3 between 1960 and 2010, healthcare's share of the GPD rose 12%. [9]

FIG. 1

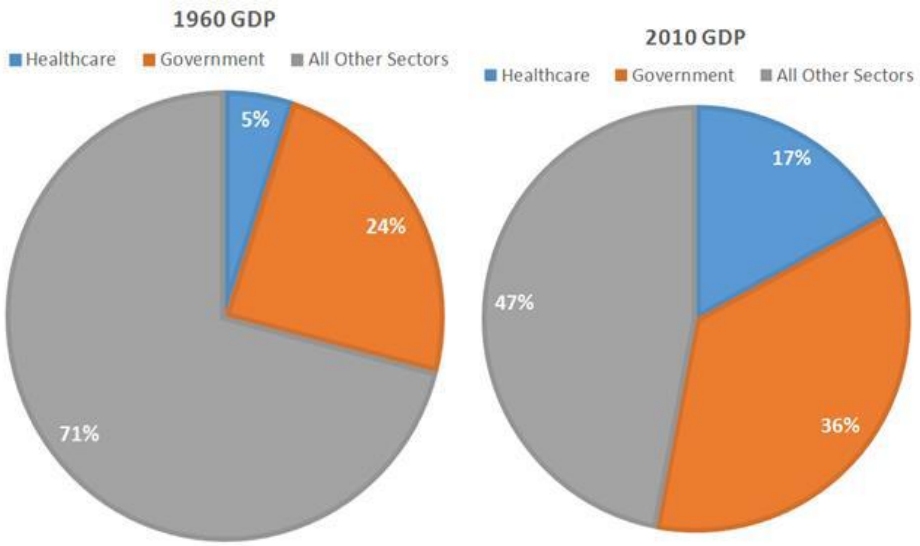
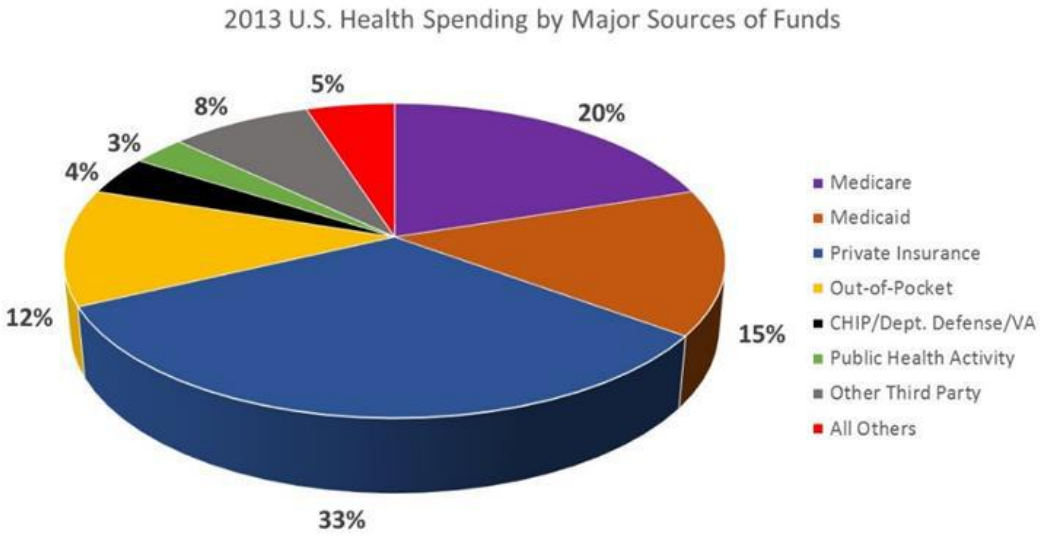


FIG. 2



2. CHANGING WITH THE TIMES

HOW HEALTHCARE COST IS INCREASING DAY BY DAY

In the past decade, India has observed a rapid growth in levels of capital and disposable incomes. Together with a better standard of living and health attentiveness, this has led to an increase in expenditure on healthcare and wellness.

Lifestyle-related diseases comprised 13 percent of total disorders in India, according to a 2008 data, and this figure is expected to increase to 20 percent by 2018. This is projected to trigger an supplementary demand for expert treatment, which in turn, will lead to improved margins for hospitals since these diseases lie at the high margin end of the continuum.[8]

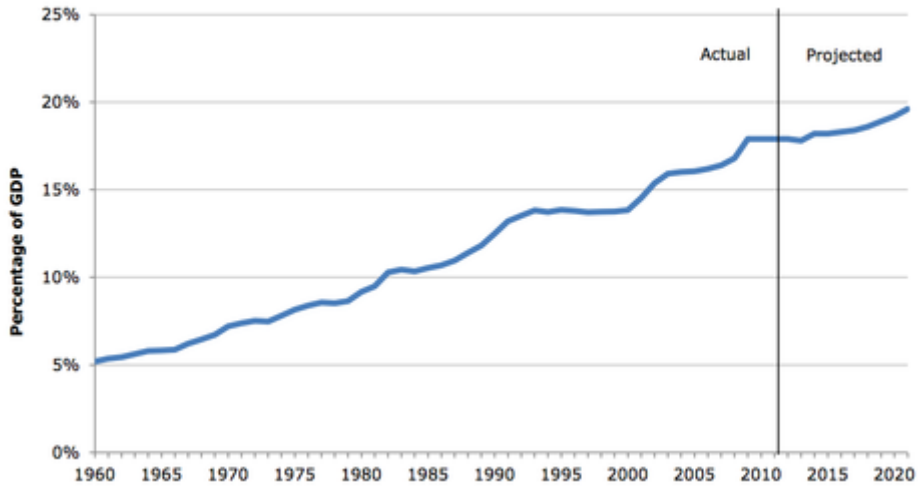
While out-of-pocket expenditure remains the backbone of healthcare expenditure, health insurance is gaining motion in India. The increasing perception of health insurance is projected to meaningfully increase the affordability of healthcare services, driving up the demand for preventive healthcare and curative services. Health tourism is also motivating the healthcare market in India.

The fact that the cure for major surgical treatment in India costs approximately 20 percent of that in advanced countries; coupled with the high superiority of care in Indian tertiary and specialty hospitals makes health tourism attractive for patients from developed as well as emerging economies.

3. CONTRIBUTING FACTORS TO THE RISING COST OF HEALTHCARE

There is no one villain in the clash against mounting health care costs. Currently, the United States employs more on health care amenities than any other country, exceeding $2.6 trillion, or about 18 percent of gross domestic product. Most years, medical expenditure rises faster than inflation and the economy as a whole. Many factors — and nearly everyone — contributes to those increases. [11]

FIG. 2



Source: U.S. National Health Expenditures as a Share of GDP, 1960-2021

We pay our counsellors, hospitals and other health providers in ways that compensation doing more, rather than being effective: Most insurers including outdated Medicare pay counsellors, hospitals and other health providers under a fee-for-service system that compensates for each test, method or visit. Coupled with a medical scheme that is not united, this inspires overtreatment, including tiresome tests, the report says. New determinations in the federal health law and among some private insurers aim to move expenses toward a flat rate for a specific condition, such as a knee replacement, or for a patient's entire chapter of care, in order to modernize costs. Medical systems and specialists are also looking to electronic medical records as a way to improve synchronization and reduce pointless, repeated tests.

We're increasing older, sicker and fatter: As we get older, we tend to need more health care. The baby boom generation is heading into retirement, with staffing in Medicare set to grow by an average of 1.6 million people yearly. Additionally, nearly half the U.S. residents has one or more chronic conditions, among them asthma, heart disease or diabetes, which drive up costs. And two-thirds of grownups are either overweight or obese, which can also lead to long-lasting illness and additional health spending.

FIG. 3

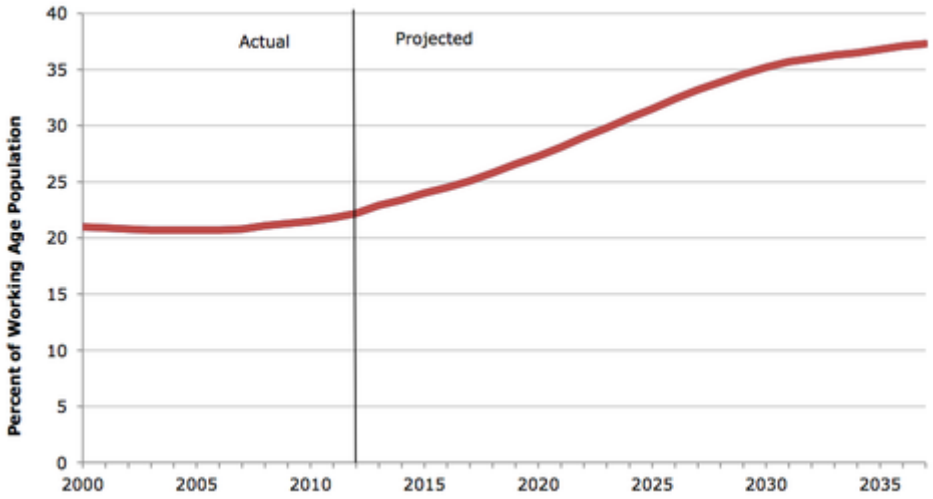
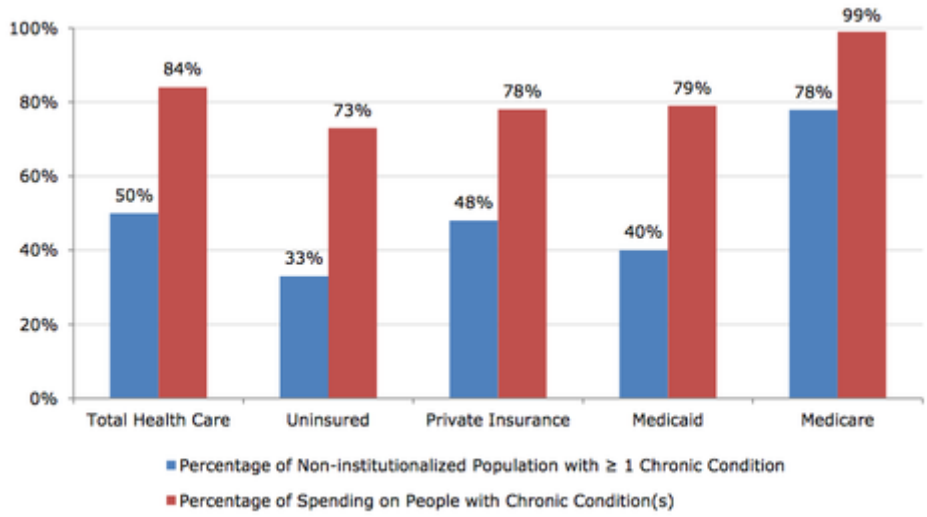


FIG. 4: POPULATION OVER 65 AS SHARE OF WORKING AGE POPULATION



People with Chronic Conditions Account for 84% of National Healthcare Dollars & 99% of Medicare Spending

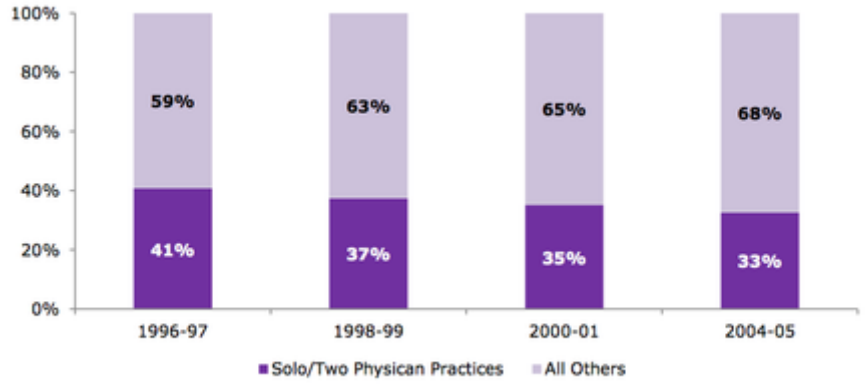
We want new treatments, skills, amenities and procedures: Medical advances can help us get well, avoid illness and delay death, but they also drive up expenditure. Much new expertise comes on the market after being experienced only for safety or whether the new conduct is equivalent to existing ones or even placebos. Patients and doctors often demand the newest treatments, even if there is little or no proof that they are better. Prices for newer treatments are often higher than for the products they replace.

We get excise breaks on obtaining health insurance — and the cost to patients of seeking care is often low: The majority of people with insurance get it through their jobs. The amount employers pay toward coverage is tax deductible for the firm and tax exempt to the worker, thus inspiring more luxurious health plans with richer benefits, the report says. How that treatment is designed also plays a role: Low deductibles or small office co-payments can inspire overuse of care, the report says. Increasingly, however, employers are moving toward high-deductible coverage as a way to slow premium growth and require workers to pay more toward the cost of care.

We don't have enough evidence to make conclusions on which medical care is best for us: While medical periodicals, the Internet and the popular press are awash in health information and studies, professionals and patients find there is no broad standard for assessing individual treatments, or how precise treatments compare with others. Even when evidence shows a treatment isn't effective, or is theoretically harmful, it can take a long time for that information to actually change how doctors practice or what patients demand, the report says. Additionally, Americans vary broadly in how they view end-of- life issues, with some desiring every possible medical involvement to stave off death in every state, no matter how small the prospect of success.

Our hospitals and other providers are increasingly gaining market share and are better able to claim higher prices: While mergers or partnerships among medical providers or insurers may improve effectiveness and help drive down prices, amalgamation can also have the conflicting effect, allowing near-monopolies in some markets and driving up prices, the report says. Increasingly, hospitals are buying up rivals and directly engaging physicians, creating larger health systems.

FIG. 5



The percentage of Physicians in Solo/Two-Physician Practices Dropped by One-fifth from 1996-97 to 2004-05

We have supply and demand problems, and legal issues that obscure efforts to slow spending: Malpractice premiums and jury awards are part of what drives spending. A larger problem, although hard to quantify, is "defensive medicine" — when doctors prescribe pointless tests or treatment out of fear of facing a lawsuit, the report says. Fraudulent billing or unnecessary tests by medical providers seeking to "game the system" are another concern.

Finally, the report notes that state laws occasionally limit the capability of nurse consultants or other medical professionals, who are paid less than doctors, to fully accomplish work for which they are trained. The U.S. faces a shortage of primary care doctors, so more advanced practice nurses and others will be needed to help care for patients who gain insurance coverage under the federal health law. Conversely, the U.S. has a higher ratio of specialists than other countries, which can serve to drive up spending. Specialists have more advanced training than primary care doctors, and are paid far more.

4. BACKGROUND

HEALTHCARE COST PREDICTION

While over $28 Billion has been expended so far on applying health information technology, particularly Electronic Health Record Systems (EHR), these systems are not interoperable, meaning that information does not flow effortlessly between them. Earlier this year, the Office of the National Coordinator for Health Information technology (ONC) released a report on health information blocking that has been undermining healthcare reform and called for congressional intervention to address the issue.

Broadcasting coverage on healthcare cost prediction indicates that many health systems and networks are developing workarounds using available standards to exchange clinical information within and among themselves to improve the patient experience and reduce costs. However, the healthcare IT landscape is far from seamlessly integrated at this point with major EHR vendors and health systems driving independent agendas. The same report notes that 63 percent of hospitals and 69 percent of health systems expect interoperability to be one of the top three data-related challenges over the next three years in performing analytics.

Healthcare Consumerism will gain ground, enabled by increased investment in digital technologies.

A recent study seems to signpost that consumerism and consumer appointment in healthcare are currently way behind the rhetoric. However, Digital Health funding has been on a tear in 2015, and the rise in funding for on-demand health startups indicates that consumers want healthcare distributed to them – which is a very different standard from the way healthcare works today. The lack of reasonable insurance on ACA exchanges, low price transparency around healthcare costs, and increasing economic burdens on consumers will drive the shift towards consumerism in 2016.

5. HOW DO HEALTH CARE COSTS AFFECT AVAILABLE INCOME?

Health care costs affect family finances in four ways:

- The family's share of the health insurance premium (not taxed)
- Out-of-pocket spending e.g., for co-pays, deductibles, and prescriptions
- The employer's share of the health insurance premium (not taxed)
- The portion of the family's federal and state taxes devoted to government health programs e.g., Medicaid, Medicare, veterans' health care, and public health.

These first two groups of these costs family premiums and out-of-pocket expenditure are readily visible to families. But the other two are largely secreted from view. Although employers pay a large share of employees' health insurance premiums, most economists agree that this money would otherwise be paid out as additional wages. And few taxpayers realize how large a share of their state and federal taxes goes to cover the costs of Medicare, Medicaid, and other government health programs. [10]

6. STRATEGIES FOR HEALTHCARE PREDICTION

THE BASELINE METHOD: To make meaningful evaluations, we define a baseline method against which we link the results of the prediction models. As our baseline method, we use the healthcare cost of the last 12 months of the observation period as the forecast of the overall health-care cost in the result period. Because current health-care cost is a strong indicator of a person's health, this baseline is much stronger than, for example, random assignment.

CLASSIFICATION TREE: Classification trees (Breiman et al. 1984) have been applied in many fields such as finance, speech recognition, and medicine. As an example, in prescription they have been applied to develop classification criteria for medical circumstances such as osteoarthritis of the hip (Altman et al. 1991), the Churg-Strauss syndrome (Masi et al. 1990), and head and neck cancer (Wadsworth et al. 2004). Classification trees recursively partition the member population into smaller groups that are more and more uniform in terms of their known result period cost. This partition can be represented as a tree. This graphical illustration makes classification trees easily interpretable, and therefore models that build on them can be medically verified.

CLUSTERING: Clustering algorithms organize objects so that similar objects are together in a cluster and dissimilar objects belong to different clusters. Our prediction clustering method centres around the algorithm behind Eigen Cluster, a search and cluster engine developed in Kannan et al. (2004). The clustering algorithm, when applied to data, automatically detects patterns in the data and clusters together members who are similar. We adapted the original clustering algorithm for the purpose of health-care cost prediction.[7]

7. LITERATURE REVIEW

This section provides the different studies on the health care cost estimation techniques and the recently developed approaches on which the performance of prediction is enhanced.

Since the 1980s, there has been research on the predictive modelling of medical costs based on (health insurance) claims data using heuristic rules and regression methods. These methods, however, have not been appropriately validated using populations that the methods have not seen. ***Dimitris Bertsimas[1]*** utilize modern data-mining methods, specifically classification trees and clustering algorithms, along with claims data from over 800,000 insured individuals over three years, to

provide rigorously validated predictions of health-care costs in the third year, based on medical and cost data from the first two years. The key findings are: (a) our data-mining methods provide accurate predictions of medical costs and represent a powerful tool for prediction of health-care costs, (b) the pattern of past cost data is a strong predictor of future costs, and (c) medical information only contributes to accurate prediction of medical costs of high-cost members.

The aim of ***Hung-Lin Chen[2]*** study is to test the validity of adapted Diabetes Complication Severity Index (aDCSI) in predicting the risk of hospitalization and healthcare cost in type 2 diabetic patients using a nationally representative claims database. Retrospective cohort study used 4 years of claims data from Taiwan's National Health Insurance Research Database (NHIRD). Type 2 diabetic patients who had 4-years of enrolment were identified as study subjects (N =136,372). The aDCSI score (sum of diabetic complication with severity levels, range 0–13) and complication count (sum of diabetic complications, range 0–7) were generated using diagnostic codes for each patient. Poisson model and linear regression model were conducted to predict risk of hospitalization and healthcare costs associated with aDCSI score and count of diabetic complications. It may serve as an efficient tool for stratifying type 2 diabetic patients for disease management programs and population-based studies.

Boris Milovic[3] investigates about the data mining and health care management and describes as Tendency for data mining application in healthcare today is great, because healthcare sector is rich with information, and data mining is becoming anecessity. Healthcare organizations produce and collect large volumes of information on daily basis. Data mining can enable healthcare organizations to predict trends in the patient conditions and their behaviours, which is accomplished by data analysis from different perspectives and discovering connections and relations from seemingly unrelated information. Raw data from healthcare organizations are voluminous and heterogeneous. They need to be collected and stored in the organized forms, and their integration enables forming of hospital information system.

Clinical prediction models are increasingly used to complement clinical reasoning and decision-making in modern medicine, in general, and in the cardiovascular domain, in particular. To these ends, developed models first and foremost need to provide accurate and (internally and externally) validated estimates of probabilities of specific health conditions or outcomes in the targeted individuals.

In this second paper, ***Karel G M Moons[4]*** an overview is provided of the consecutive steps for the assessment of the model's predictive performance in new individuals (external validation studies), how to adjust or update existing models to local circumstances or with new predictors, and how to investigate the impact of the uptake of prediction models on clinical decision-making and patient outcomes (impact studies). Each step is illustrated with empirical examples from the cardiovascular field.

The main objective of ***Shadab Adam Pattekari[5]*** research is to develop an Intelligent System using data mining modelling technique, namely, Naive Bayes. It is implemented as web based application in this user answers the predefined questions. It retrieves hidden data from stored database and compares the user values with trained data set. It can answer complex queries for diagnosing heart disease and thus assist healthcare practitioners to make intelligent clinical decisions which traditional decision support systems cannot. By providing effective treatments, it also helps to reduce treatment costs.

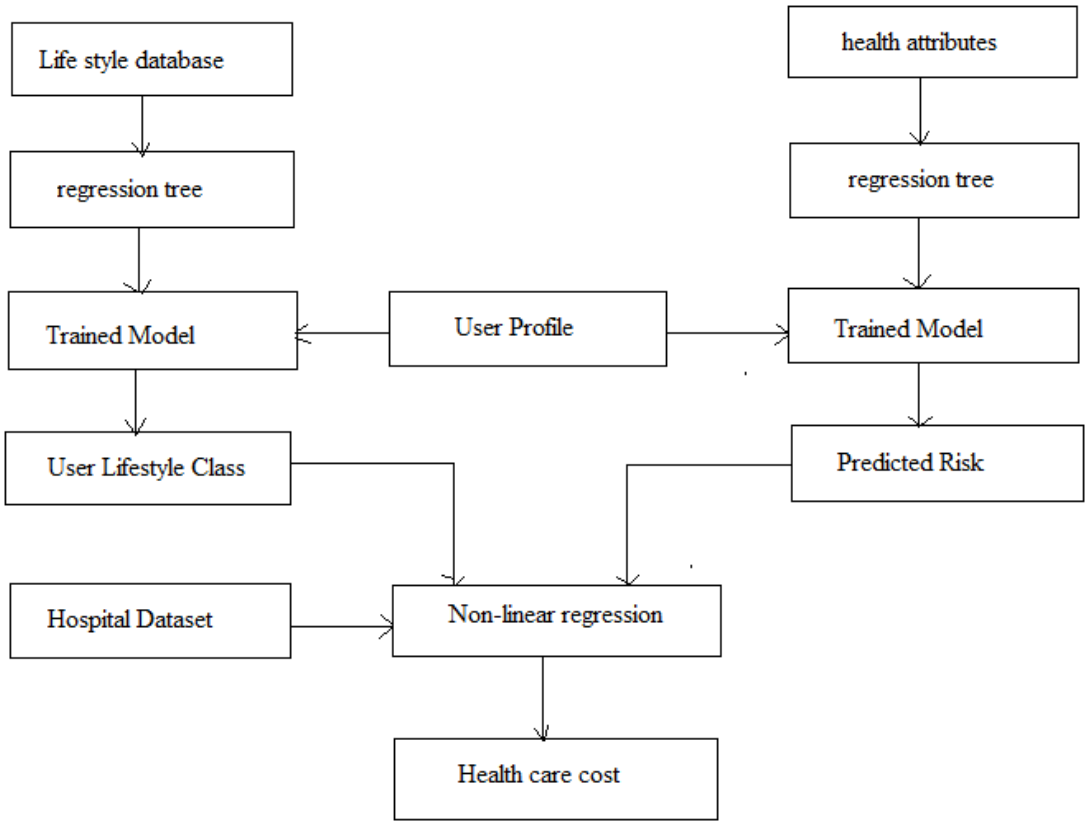
In this demonstration proposal **James Marquardt[6]** describe Health- SCOPE (Healthcare Scalable COst Prediction Engine), a frame-work for exploring historical and present day healthcare costs as well as for predicting future costs. HealthSCOPE can be used by individuals to estimate their healthcare costs in the coming year. In addition, HealthSCOPE supports a population based view for actuaries and insurers who want to estimate the future costs of a population based on historical claims data, a typical scenario for accountable care organizations (ACOs). Using interactive data mining framework, users can view claims (sample files will be provided), use HealthSCOPE to predict costs for the upcoming year, interactively select from a set of possible medical conditions, understand the factors that contribute to the cost, and compare costs against historical averages. The back-end system contains cloud based prediction services hosted on the Microsoft Azure infrastructure that allow the easy deployment of models encoded in Predictive Model Markup Language (PMML) and trained using either Spark MLLib or various non-distributed environments.

8. PROPOSED WORK

The proposed work is motivated from the article related to HealthSCOPE. In this article a health care cost prediction model is provided using the linear regression and the regression tree data model. The given model composed by the linear regression model is suitable for linear approximation of data but not much suitable for unstable data sets or fluctuating characteristics of the user behavioural attributes therefore a multi-stage classification data model is required to develop by which the performance of current predictive data is can be improved.

The proposed health care cost prediction data model is demonstrated using the figure 1. The given system provides the formal working of the proposed system.

FIGURE 6: PROPOSED DATA MODEL



The above described data model first need to create a user profile which contains both kinds of attributes health attributes (i.e. sex, age, weights, etc) and life style attributes (i.e. work, profession, car, house, etc.). These profiles are used to predict the health care cost and using the working model. Therefore three different kinds of databases are prepared in first health attributes are associated and the classes of this data set provides the risk of any disease. In the similar ways the life style database contains the defined attributes with the class labels as (A, B or C). These values are provides the leaving slandered of the concerned person. Both the datasets are analysed using the regression tree data model and the trained data model is prepared. On the bases of the user profile the decision tree is traversed and associated risk and the life style is predicted. A third data set that contains hospitals and their attributes (i.e. hospital class, treatment cost, treatment time, etc.) is used with the predicted class labels of previous classifiers and the final cost using the non-linear regression model is estimated which is best suited according to the input user profile.

9. CONCLUSION

The healthcare scenario in India is at an articulation point. While the situation for the healthcare industry is positive, there is a need of transmission towards an integrated healthcare delivery system, which impacts expertise and has the patient at its centre.

In the present situation, people are very much attentive and foresighted to have a prediction of their health and the cost related to it. This has given escalation to the better health care plans, beneficial to masses and the industry. And so this paper will be a step towards making a critical valuation of the health care features and the preference of individuals.

This paper is an attempt to explore the health care scenario, its collective cost, and major contributing factors responsible in increasing the health care cost.

This paper is also an effort to generate Models that can predict human actions, various characteristics related to life style and based on these data, it is an attempt to forecast the future health care cost.

This research study can help an individual to foresee the future cost incurred in health care and so can help him analysing dealing with the same.

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ASSESSING ROLE OF DIGITALIZATION IN IT BUSINESS PROCESS MANAGEMENT

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ABSTRACT

This white paper illuminates the major trends that are reshaping the way IT operates. This paper explains the role of digitalization to make IT business process management easier and make the product and services exceeds satisfaction to the customer. It also presents our take on the elements that will define the future IT operating model, and the key success factors critical to adopting this new-age operating model. We also illustrate our work in helping two Fortune 100 companies embrace this new approach. Digitalization is the IT-related process of organization which could either be a process of transferring any information into digital format or a process of replacing some clerical tasks into automated tasks. BPM is the management process of how the organization respond to the change; reorganization, high growth, or new system implementation. In that sense, BPM may not need the involvement of IT or Digitalization. However, it is commonly found that most BPM projects involve Digitalization as a tool and enabler, at least in the last ten years. Digitalization fits in the BPM as a tool for bridging the business process with the IT process. Using the tool, the BPM implementer will be able to see the interdependency among processes and generate a programming script, thus, introducing the automation. Furthermore, digitalization can be seen as an outcome of the BPM

KEYWORDS

digitalization, IT business.

INTRODUCTION

Revolution of business through digital technology started in the mid-1960s with the advent of commercial mainframes and green screens. People were working breathlessly for business delivery with the impending paperless office and repeated the same throughout the 1970s as minicomputers. Later their hopes, dreams and productivity invented in 1980 on networked PCs and Unix servers, and continued through the 1990s (into current times) with the mainstreaming of the Worldwide Web ands-called "Internet of Things." And still, the average worker generates more than two pounds of paper per day … so much for the paperless office!

Given all this, it might sound a bit naïve to proclaim that the era of digital business is now upon us. Yet as this issue of latest trend reveals, new technologies, tools and techniques are rapidly converging to push the vision of end-to-end digital business over the final barrier into an approachable reality. Big changes in the way we work, live, digitally maintain our health and manage our finances are right around the corner and are likely to become accepted norms sometime in the next decade. And this time, when we say "digital," we really mean it. Business leaders of the future will compete not on things we can touch but on something that's as intangible as it is powerful: code. When businesses successfully distill and apply meaning from the digital data that surrounds every person, process, organization.

This paper explains how the new era of digitalization exceeds the customer delight and organization run for optimizing their products and services through new digitalized technologies.

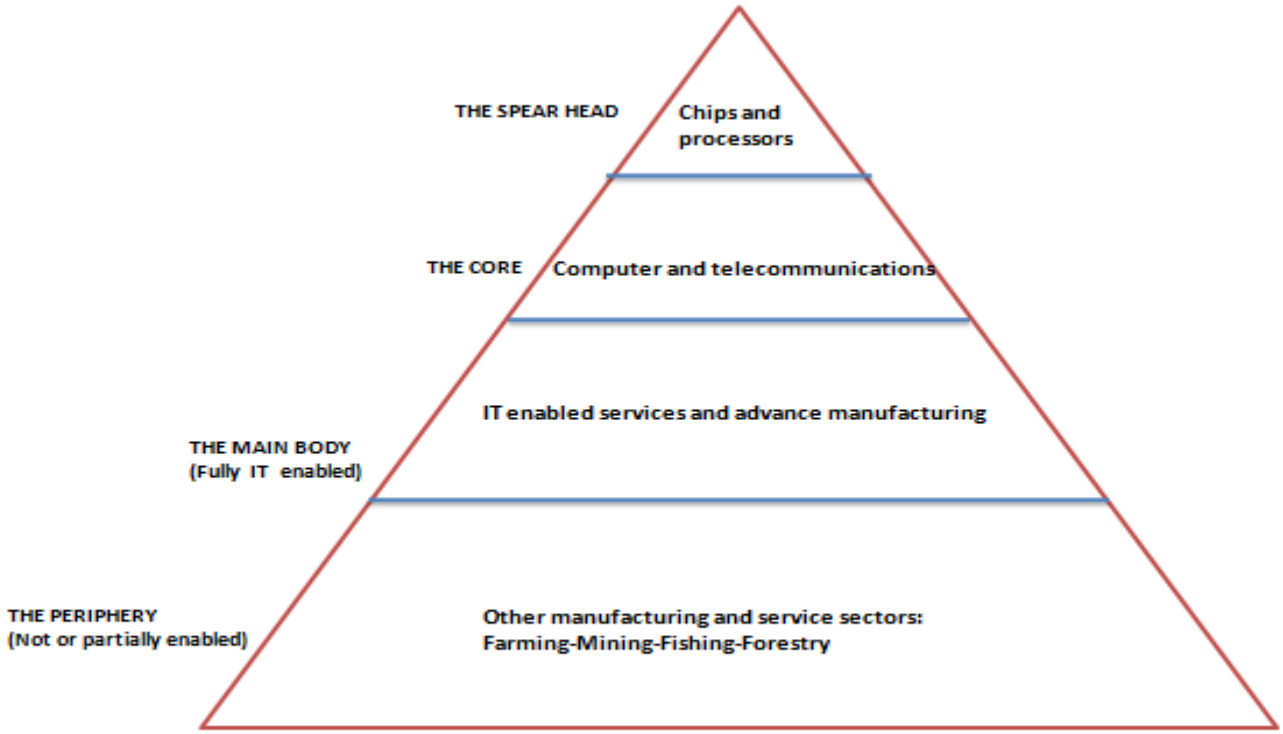
DIGITAL CHANGES RULES OF BUSINESS

Digital tools and technologies are the major contributors in the industrial resolutions. These major resolutions are possible by the innumerable data around us. This data assists for IT strategy makes to come up with better business strategies and practices. Thee leaders, winners and outliers are trying to set new rules of business based on the data generated by us, using our apparatus like text messages, Web site, songs, articles we down load, number of clicks we made like face book likes. Internet would not have become so popular if business and households wouldn't have gotten access to micro computers and network technologies like digital subscriber lines (DSL) and cable modems'. Amplitude in the application and its content through internet was the powerful drive towards more computers and connections available in the enterprises, home and schools. Globalization and emergence of other digital devices like smart phones, camera, flat panel TVs improved the digital convergence. Digital convergence continuously improves the process and increases the different dimensions of business that produces new companies, new products and new possibilities of value added creation.

Digital technologies are spreading the entire economy now. All most all industries like Manufacturing (Computer manufacturing, Automobile, Aerospace, textiles, electrical manufacturing), Service Sector (Finance, health, retail, transport and travel), agriculture, fishing, mining are depended on digital apparatus, computers, softwares, advance telecommunication services. Remote sensing and geographic information systems are being used by forest and agricultural industries. Fishermen and farmers are using global positioning systems, radar and sonar.

The pyramid of digital economy is mentioned below:

FIG. 1



Pyramid of the digital Economy

The largest part is still remains almost nonexistence for digitalization especially agriculture, fishing and foresting are being percolated by digital technologies.

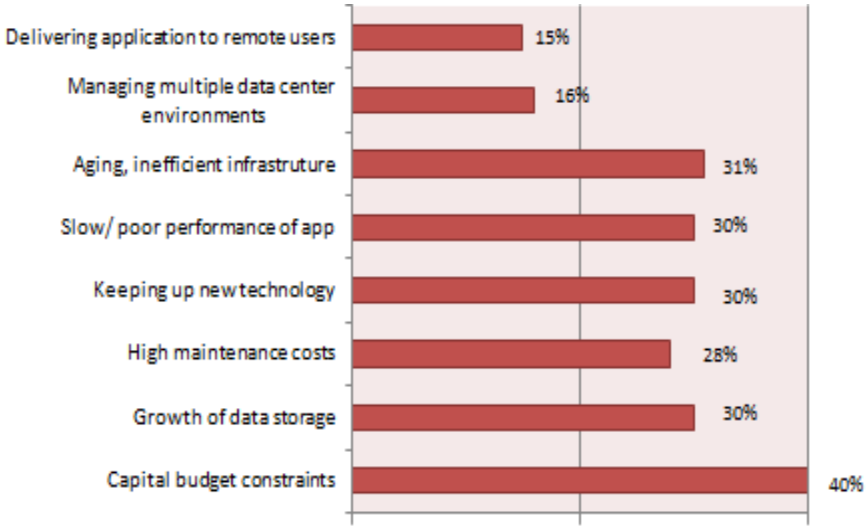
VIRTUALIZATION OF REALITY THROUGH DIGITALIZATION

Latest technology in IT brings realty in to virtualization; customer can preview, enjoy and review everything before of you. Digitalization placed a major role in this transition. There are 2 types of virtualization is required in the IT business process management and its operation. As explained early, digitalization provides multi business opportunities. Unless IT business process supports and enhances digitalization and virtualizing hardware and software support will not be possible.
IT Business process can handle following virtualization through digitalization.

HARDWARE SERVICE VIRTUALIZATION

Computer data is information /knowledge executed or stored by a computer. This information may be in the form of text documents, images, audio clips, software programs, or other types of data. Computer data may be processed by the computer's CPU and is stored in files and folders on the computer's hard disk. Data centers are the centralized repository; it could be either virtual or physical. It is used for the management, storage, annunciation of data. IT Digitalization helps for data center virtualization, basically called as hardware virtualization. IT leaders are facing following challenges:

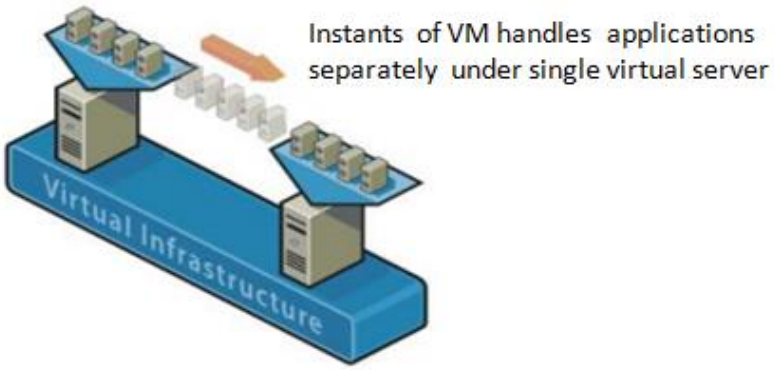
FIG. 2: TOP CHALLENGES IN MANAGING DATA CENTER ARE BELOW



Hardware virtualization solves most of above said challenges. Software controls hardware. Hardware virtualization intrinsically is decoupling software from the hardware that enables more workloads to operate in a single machine. It allows hardware resources to work more efficiently. Virtualization also aids to grow the data storage requirements.
Hardware virtualization deploys a virtual machine manager (VMM), which creates a virtual layer between software and underline hardware. Once VMM in place software relies on the virtual processors rather than physical processors. Virtual computer hardware resources can be outfit in to isolated instants called virtual machines. Where operating systems and applications can be installed. Every VM logically isolated from another VM. It means virus attack in one VM will not

hamper another VM. For example, rather than buying 10 separate servers to host 10 physical applications, a single virtualized server can effectively host same 10 application in different VM instants on the same system. So that this hardware virtualization improves hardware utilization. This handles most of the above notified challenges.

FIG. 3



In short, while improving productivity, organization should manage Virtual environment and physical environment on the same way in order to reduce the complexity. Management of Virtual resources is important in the IT Business process. This is to ensure that customer can move along with service virtualization and extends its many benefits beyond the support for Datacenter.

This digitalization of service virtualization allows customer to respond quickly to the business by increasing flexibility of the environment and speed time to the application.

SOFTWARE SERVICE VIRTUALIZATION

We were discussing about the impact of digitalization in IT business process which brings Hardware virtualization to improve the business though optimizing the resources in better way. Now we are going to discuss about service virtualization. It just mimics the software services and eliminates it dependency. This improves the productivity in the process management and provides the product early to the customer with better quality

Your work, my work and every work are changing significantly, rapidly and dramatically by a beautiful shift underpinned by digitalization and service virtualization. Basically it is managing virtual workers. Digitalization is shifting all most all manual process in to automation. That improves IT Business process

Here I am stating the example of digitalization and subsequent service virtualization. Companies were owning, maintaining and operating their own systems. Business was valued based upon their assets and employers. For example, an airline owned airplanes, manage their software, and organize customer care services. Airline company who owns its manages everything like, Managing ticket reservation system, Manage Software programs, hardware systems, IT Datacenters Manage Human management, Manage vehicles Breakdown and preventive maintenance and much more. Here all services are organized by the airline itself. The assets and the people were all an integral part of the company. They were the business.

Digitalization in business process through latest IT infrastructure has changed a lot the mode of running the business in the efficient way. As part of Service virtualization, the above mentioned business process can be categorized in to different services. The next generation airlines every service will be outsourced and work under a shared banner and brand. Brand and cash flow are assets. Human resources are contractors; company has no liability on them. Company recruits thorough a third party vendor. All risks including managing skill and training programs will be virtualized. Means Valuation is no longer bounded with hard asset like aircraft and staff head account. Valuation is tied with Respectable customers and Cash flow. Customer care still will be under the responsibility of the airline. Company still be transporting passengers and freights, but using highly virtualized model of business that brings all service components together from verity of service providers. Here all services are virtualized and quality would be really optimized as part of delivery. Here entire Airline Company is virtualized through digitalization. I agree that coordination is required in the virtualized environment because delighting customer is still airlines responsibility, but all services are outsourced and there will be a code of conduct and rules of protocol about managing operation in quality way. If services are not delivering positive responses to the right request from the airline management, those providers will be punished with penalty and they should be in a position to produce the corrected standard operating procedure and disaster recovery plan to make the continuous improvement in the IT Business process.

This digitalization brings a new era of business management which enables optimized quality delivery with almost zero defects. We can only achieve transformation if we digitize every aspect of the business. We will rely heavily upon automation, distributed intelligence, and cognitive computing to perform tasks that were once labor based work. We are heading towards a world of "self-service

Once every aspects of the business is virtualized through digitalization, business will be operated with just few hundred of staffs. The staff will be made up of lawyers for contracts, accountants for financial administration, and project managers for logistical control. This virtualized work will look, feel, act, and be one unified entity to the consumer, but under the covers, it will be a very differently constructed and structured business than we have seen for the past eight decades. It will be a composition of tightly coupled services.

Certain examples for Service virtualization of IT business process through digitalization as follows:

TABLE 1

Organization	Digitalizing Business Process through Service virtualization
Uber	Largest Taxi company in the world, owns no vehicles, no man power, No space required for maintaining resources. Only mangers vendors for IT and operation
Face book	World's most popular social media works without web contents and middleware components, Only manages handling vendors for Advertisement maintenance
Air bnb	The world's largest accommodation provider owns no real estate. Something interesting is happening
Amazon	Largest Internet-based retailer in the world by total sales and market capitalization. Owns only cloud computing, Resources management, Operation management are outsourced and running successfully as Service virtualized organization through digitalization.
Alibaba	The most valuable retailer, has no inventory

DELIVERING HIGH QUALITY IT PRODUCTS THROUGH DIGITALIZATION

The Nature of new aged digital technology, increases customer expectation and focus. Organizations are forced to deliver the quality products and services at the earliest with optimum business process. As part of journey, IT leaders to brainstorm the new ideas and business process to tie up the new age of digitalized technologies.

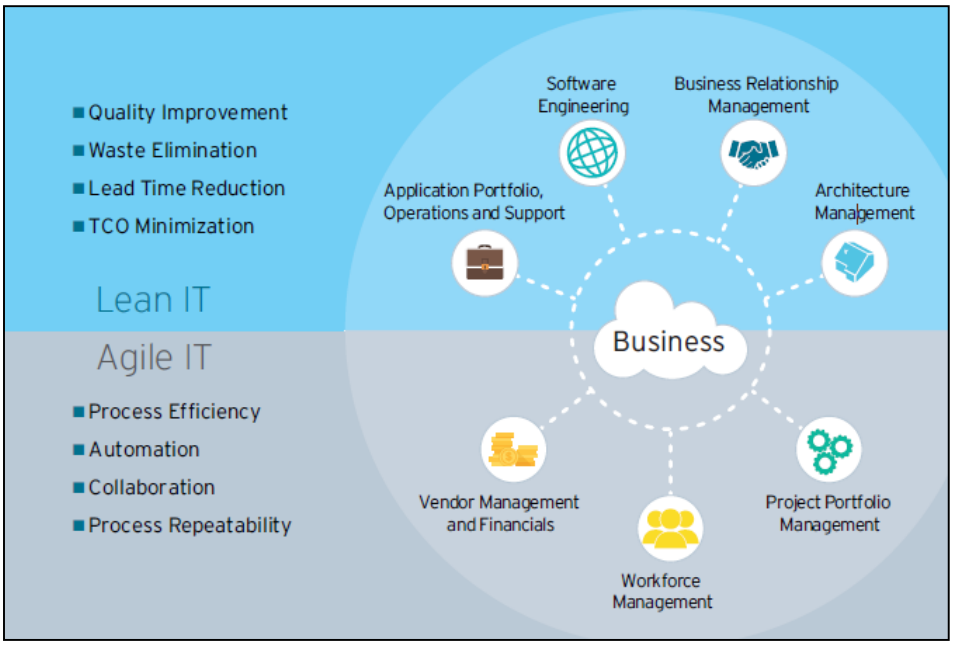
IT business process has to optimize with agile development, testing, Raid release cycles with continuous integration of business process and continuous delivery of Defect free products and services to the end users with optimum usage of digitalization. Agile is now the best business process methodology to bring up IT products and services at best in class companies, many of them operates 60 to 70 % of portfolio using form of iterative or agile development methodology

Lean / Six sigma principles go tie with agile methodology helps organization eliminates waste, variability and produce quality works. That brings additional values and with fewer resources. In addition to above, IT leaders start thinking automating Possible IT Business process through the new digitalized technologies. Automation of sending request and getting appropriate responses from the services connected to the IT business process, Automation of repeated IT process like patch management, release execution eradicates the manual intervention. That brings up speed in agile and lean mythologies that we discussed above.

In short, optimizing IT business process by Agile, Lean and process automation methodologies becomes reality and returns customer delight is only through the invoke of new digitalized technologies.

Please see the below presentation, that express lean, Agile and Automation driven different essential components in IT Business process.

FIG. 4



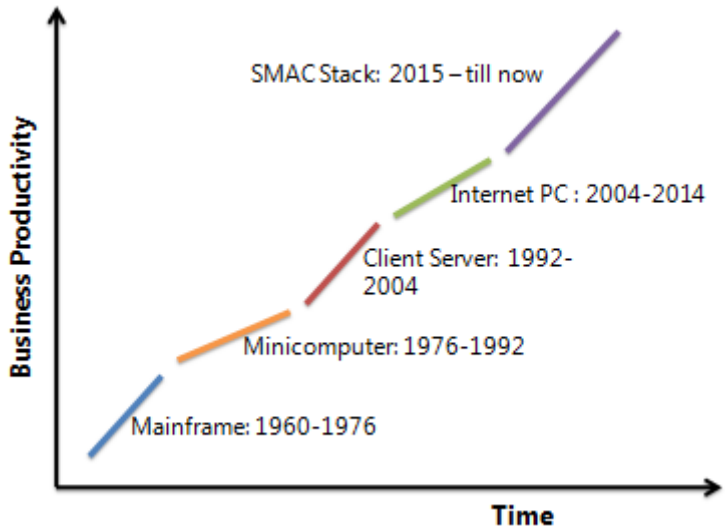
SMAC STACK ENABLES DIGITALIZATION IT BUSINESS PROCESS MANAGEMENT

New Era of competitive environment, IT process should not only support business enablement, it must also support or should have power next generation business models. Upcoming and existing digital technologies such as mobile channel for better communication, Social collaboration tools, Business analytics like master data analysis, wearable computing like flexible, optimized and easy to plug IT infrastructure transforming business process/models and streamlining the bride between Physical, online and virtual worlds.

Above said SMAC stack (Social, Mobile, Analytics and Cloud technologies) were working isolated, but due to advanced digital technologies and innovative IT process through Internet of things made IT Business process management in to new age of digitalized and efficient structure.

Please see the below diagram about IT transformation over the period that brought new business process and model

FIG. 5



CLOUD COMPUTING IN IT BUSINESS PROCESS MANAGEMENT

Cloud-computing providers target a variety of end users from software developers to the general public. Introduction of cloud computing enables the optimum way of managing IT business process with less cost of infrastructure. It changes the fundamental way in which IT Business model delivers the Services

Following are the salient features of digitalization of cloud computing over IT Business Process

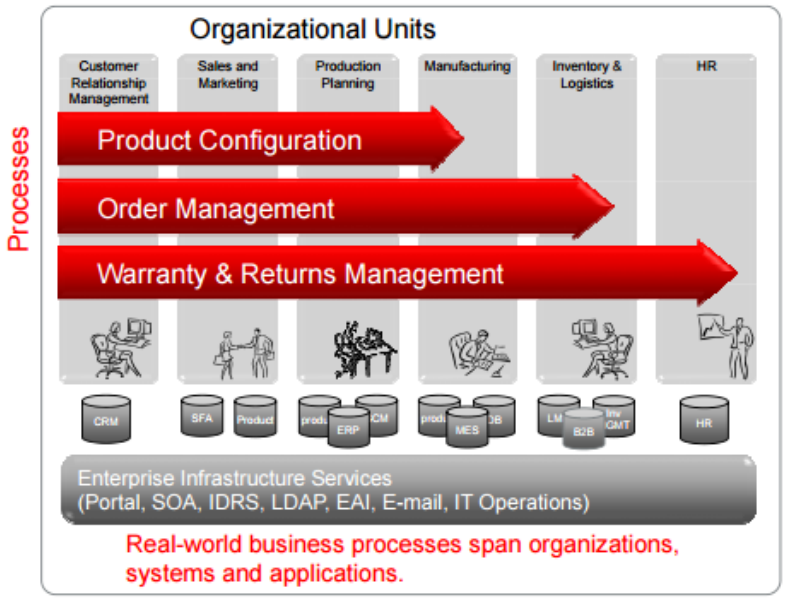
- Customers do not own network resources, such as hardware, software, systems, or services
- Network resources are provided through remote data centers on a subscription basis

- Network resources are delivered as services over the Web
- Brings following Services in IT business in optimum and effective way:
  - Software-as-a-Service (SaaS)
  - Platform-as-a-Service (PaaS)
  - Infrastructure-as-a-Service (IaaS)
  - Business Operations Platform (BOP)
  - Public Cloud and Private Cloud

Hardware virtualization is the back bone for the cloud computing. Virtualization means that the services provided by a hardware device are abstracted from the physical hardware. Hardware services are built on top of the virtualization layer that helps service providers to operate efficiently the services and offer standard-ized platform to the customers. New digitalization technologies help to integrate Cloud computing and virtualization in optimum way. That helps for Business leaders to strategies the efficient way of managing IT business process.

Please see the below presentation that gives over view of digitalizing cloud technologies manages IT Business process today. Here it is given examples for leading enterprise information systems.

FIG. 6



CLOUD CHALLENGES TO BPM

We explained the benefits of integrating cloud computing with IT business process. We also required overcoming below challenges as well.

- Management of processes in the cloud needs to be available anytime and from anywhere.
- Process optimization choices need to be as rich in the cloud as they are in the enterprise.
- Integration and security require greater attention with distributed systems that cross the public domain.

ROLE OF ARTIFICIAL INTELLIGENCE IN DIGITAL TRANSFORMATION

The Scientific fiction: Artificial intelligence began around 1960s. Basically educating systems to act like human being and use self-intelligence for decision making and processing in critical area. AI is the umbrella for the related technologies. This includes natural language processing (Improving the logical interaction between human and computers) and machine learning (Software program is self-sufficient to learn, analyze and find out decision with right direction when new data comes for processing) This Machine learning is the major factor in the current digital transformation across industries. The future projection says the impact of artificial intelligence in Digitalization improves the IT business process and labor productivity up to 40% and enables human being to make more efficient use of their time. Through digitalization, AI can be used different business domains. Following are the examples:

1. AI in Financial and banking services for following
   a. Auto payment based on changes in the payment ecosystem
   b. Bank process large volume of data and required large volume of people for the repetitive task. This business process can be automated by adding the layer of machine learning for this complex and repetitive task.
2. AI with machine learning is useful utility for image analysis to identify distinct forms and shapes, means face and finger print recognization for the verification
3. Thorough and systematic learning to generate rules for big data handing and analysis.
4. Pattern recognition to analyze code for weakness such as criticality and code smells
5. Object identification and forecasting the combined video streams and mutli sensor for autonomous driving.

AI machine learning employs following two strategies

1. SUPERVISED LEARNING

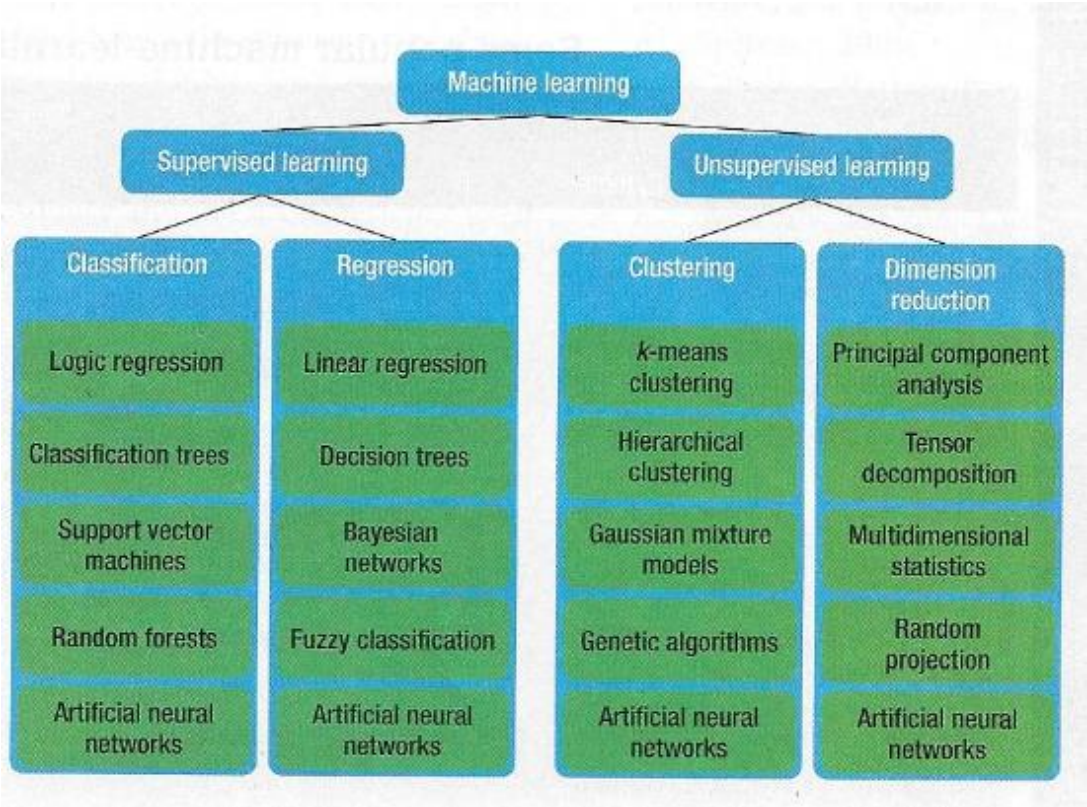
Here, contains data and correct output of task with that data. It gives direction with a set of problems and their solutions and telling that person to provide or find out how to solve other problems. He or she will have to deal with in the future. It includes classification and regression algorithms.

2. UNSUPERVISED LEARNING

Here, contains data but no solutions. Computer or machine learning must find out the solutions on its own. This is telling/ providing a person a set of patterns and asking him or her to figure out the underlying design that provides patterns. It includes clustering and Dimension reduction algorithms

Please see the below diagram for the same.

FIG. 7



CONCLUSION

Overall world is moving though digitalization which changes the rules for business through hardware/ software virtualization, SMAC stack enabled cloud computing and artificial intelligence. This helps organization to provide quality IT products to the esteem customer through accelerated services.

Cloud computing and artificial intelligence are the two major factors will change the perception of world business in the upcoming years. Cumulative worldwide spending on artificial intelligence (AI) will reach $40.6 billion by 2024. Through digitalization AI is on the verge of becoming a critical part of every business infra-structure, be a vital role for organization strategy makers to understand how the new technology or machine learning process can or will rearchitect the traditional business models in to the digitalized way.

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FINANCING OF INFRASTRUCTURE COMPANIES IN INDIA: A COMPARATIVE STUDY OF IIFCL AND IDFC

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ABSTRACT

Increasing investment in infrastructure calls for attention towards various methods of financing infrastructure projects. Among the various sources of financing, commercial banks are the major source of debt financing for infrastructure projects. However, the 'Assets-Liability Mismatch' brings to front the role of Infrastructure Finance Companies (IFCs) in providing long-term finance to infrastructure projects. The present study attempts to analyze the financial performance of two major public sector IFCs in India viz. the IIFCL (India Infrastructure Finance Company Limited) and IDFC (Infrastructure Development Finance Company). The study compares the performance of the two companies for a period of five years on the basis of financial ratios by applying independent samples t-test. The results reveal that there is no significant difference between the performance of the companies on the basis of long-term profitability and capital adequacy. The performance is also not significantly different on the liquidity front. However, the performance of the companies differs significantly on the basis of long-term solvency position.

KEYWORDS

IDFC, IIFCL, infrastructure, infrastructure finance companies, financial performance.

JEL CODES

G23, H54, O18.

INTRODUCTION

Infrastructure can be elucidated as the basic physical system of a business or a nation. It includes transportation, communication, sewage, water and electric system, etc. Infrastructure ventures need high investment, and also they are an inevitable part of national and economic growth. Infrastructure is a major sector that propels overall development of the Indian economy. The Gross Capital Formation (GCF) as an indicator of investment in infrastructure, grew from 5.6% of GDP in FY07 to 6.5% of GDP in FY12. Overall share of investment in infrastructure in GDP over the Eleventh Five-Year Plan period was 7.1%, up from 5% in Tenth Plan. Such an increasing trend in investment in infrastructure calls for an increased attention towards development of various methods of financing the infrastructure projects. The methods employed to finance the infrastructure projects in India can be broadly divided into two categories viz. (i) Equity financing which is done by domestic and foreign investors, public utilities, institutional investors, government funds, etc. and (ii) debt financing which is done through bond markets, commercial banks, external commercial borrowings, etc. Among the stated sources of financing, commercial banks are the major source of debt financing for the infrastructure projects. However, the major obstacle that these banks face in providing long-term finance to infrastructure projects is the problem of 'Asset-Liability Mismatch' wherein, the commercial banks have to provide finance to the projects for a period of 10-15 years, whereas, bank deposits have maturity of less than 3 years. In such circumstances, the role of Infrastructure Finance Companies increases manifold. According to Reserve Bank of India, an Infrastructure Finance Company (IFC) is a non-deposit accepting loan company which deploys a minimum of 75 percent of its total assets in infrastructure loans. Some of the major Infrastructure Finance Companies (IFC) in India are Rural Electrification Corporation (REC), Infrastructure Finance Corporation (IDFC), Industrial Finance Corporation of India (IFCI), Power Finance Corporation (PFC), India Infrastructure Finance Company Limited (IIFCL), Infrastructure Leasing and Financial Services Ltd. (IL&FS), L&T Infrastructure Finance Company, Srei Infrastructure Finance Limited, etc.

The present study attempts to study the financial performance of two major public sector IFCs in India viz. India Infrastructure Finance Company Limited (IIFCL) and Infrastructure Development Finance Company (IDFC).

INDIA INFRASTRUCTURE FINANCE COMPANY LIMITED (IIFCL)

IIFCL is an Indian company, wholly-owned by Government of India, set up in 2006 and provides long-term finance to viable infrastructure projects through the Scheme for Financing Viable Infrastructure Projects through a special purpose vehicle called IIFCL, broadly referred to as SIFTI. IIFCL has been registered as an NBFC-ND-IFC with RBI since September 2013. IIFCL provides assistance to varied sectors including transportation, energy, water, sanitation, communication, social and commercial infrastructure, etc. Till 30th June, 2016, IIFCL, on a standalone basis, has made a cumulative gross sanctions of over Rs. 69,700 Crore under direct lending to more than 390 projects and has made cumulative disbursements of over Rs. 49,700 Crore, including disbursements under Refinance and Takeout finance. The IIFCL provides loans for infrastructure projects through various modes like direct financing, takeout financing, credit enhancement scheme and re-finance scheme.

INFRASTRUCTURE DEVELOPMENT FINANCE COMPANY (IDFC)

Infrastructure development finance company is an India-based finance company. It provides financial and advisory services to infrastructure projects along with asset management services and investment banking. IDFC was set up in January 1997 with registered head office at Chennai. In 1998 it registered itself with RBI as a NBFC and in 1999 it became a Public Financial Institution. IDFC registered as a merchant banker and an underwriter in 2000 and in 2001 as a debenture trustee under Securities and Exchange Board of India (SEBI). In 2002, the company incorporated IDFC Assets Management Company Ltd., as a subsidiary company. On April 2, 2014, RBI granted in-principal approval to IDFC to set up banks. The IDFC bank started operations on October 1, 2015.

REVIEW OF LITERATURE

India being the largest democracy in the world, and on its path of becoming a developed nation, needs a right balance of urban development and infrastructure growth. The infrastructure sector is vital in propelling India's overall development. However, India lacks in infrastructure development, even in the basic housing and sanitation infrastructure. India needs an improved investment in infrastructure projects. In July 2016, Mr. Nitin Gadkari, Minister of Road Transport and Highways, and Shipping, had announced that the Government targets an investment of Rs. 25 trillion (US$ 376.53 billion) in infrastructure over a period of three years. The infrastructure gap in India cannot be overlooked. According to World Economic Forum's Global Competitiveness Report of 2014-15, India ranks 87th out of 148 countries for its infrastructure. Infrastructure financing was traditionally done by the Government and the public sector. Commercial banks are the major source of financing the infrastructure projects, however, with their own financing limitations. Therefore, there is a growing need to bring the Infrastructure Finance Companies operating in India to come to the forefront in financing of the infrastructure projects.

According to Bond, Platz and Magnusson (2012) in developing countries there is a shortage of long-term, local-currency financing for infrastructure projects, which hampers economic growth. Factors like inadequate fiscal transfers and low creditworthiness brings difficulties for local government to fully fund the projects.

According to RBI, the need for infrastructure finance must be met by long term finance institutions. (Chakrabarty, 2010) However, according to Mor and Sehrawat (2006) Development Finance Institutions (DFIs) are undercapitalized and un-profitable and also the Infrastructure Finance Companies are showing slow growth.

As per the ICRA Research Services 'Infrastructure Finance Companies Update for FY 2014-15', the growth rate of IFCs in 2015 was significantly lower than the CAGR reported over the last five years. It also concluded that there could be a sturdy accrual in the delinquent exposures and the IFCs could spot asset quality pressures over the medium term.

Under such circumstances, it is essential to evaluate the financial health of the IFCs. Therefore, the present study evaluates the financial performance of two major public sector IFCs i.e. IIFCL and IDFC for a period of five years.

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To study the financial performance of IIFCL and IDFC for a period of five years.
2. To comparatively evaluate the financial performance of the two infrastructure finance companies for a period of five years.

HYPOTHESIS OF THE STUDY

$H_1$1: There is a significant difference between the capital adequacy ratio of IIFCL and IDFC.
$H_1$2: There is a significant difference between the return on equity of IIFCL and IDFC.
$H_1$3: There is a significant difference between the return on assets of IIFCL and IDFC.
$H_1$4: There is a significant difference between the earnings per share of IIFCL and IDFC.
$H_1$5: There is a significant difference between the gross non-performing asset ratio of IIFCL and IDFC.
$H_1$6: There is a significant difference between the net non-performing asset ratio of IIFCL and IDFC.
$H_1$7: There is a significant difference between the current ratio of IIFCL and IDFC.
$H_1$8: There is a significant difference between the quick ratio of IIFCL and IDFC.
$H_1$9: There is a significant difference between the debt-equity ratio of IIFCL and IDFC.
$H_1$10: There is a significant difference between the solvency ratio of IIFCL and IDFC.

RESEARCH METHODOLOGY

The study is totally based on secondary data collected from different sources like the annual reports of IIFCL and IDFC for the FY 2011 to FY 2015, the official website of the companies, RBI reports, the Five-Year Plans, etc. The financial performance of the companies has been measured by various accounting ratios viz. capital adequacy ratio, return on equity, return on assets, earnings per share, gross non-performing asset ratio and net non-performing asset ratio, debt-equity ratio, solvency ratio, etc. In the case of absence of information regarding the financial ratios of the companies for specific years, the ratios have been manually calculated by the author.

The performance of the companies have been shown with the help of descriptive statistics and various graphs showing the trend of performance of the two companies for the period of five years. Comparative performance evaluation of the two companies has been done by applying independent samples t-test on the financial ratios depicting performance of the companies. Statistical software packages SPSS and MS-Excel have been used for the analysis.

DESCRIPTION OF VARIABLES

1. **CAPITAL ADEQUACY RATIO (CAR):** Capital adequacy ratio (CAR) is the ratio of a financial institution's capital in relation to its risk weighted assets and current liabilities. It is decided by the central bank and bank regulators to prevent the financial intermediaries from taking excess leverage and becoming insolvent in the process.
   CAR = (Tier I + Tier II + Tier III (Capital Funds))/ Risk Weighted Assets
2. **RETURN ON EQUITY (ROE)**: Return on equity (ROE) is the amount of net income returned as a percentage of shareholders equity. It measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. It is expressed as percentage and is calculated as:
   ROE = Net Income/Shareholders Equity
3. **RETURN ON ASSETS (ROA)**: Return on assets is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Also referred to as 'return on investment', it is calculated as:
   ROA = Net Income/Total Assets
4. **EARNINGS PER SHARE (EPS)**: Earnings per share (EPS) is the portion of a company's profit allocated to each outstanding share of common stock. EPS serves as an indicator of a company's profitability. It is calculated as:
   EPS = (Net Income- Dividends on Preferred Stock)/Average Outstanding Shares
5. **GROSS NON-PERFORMING ASSETS RATIO (GNPA)**: Gross NPA is the amount outstanding in the borrowal account, in the books of the financial intermediary other than interest which has been recorded and not debited to the borrowal account. Gross NPA ratio is the ratio of gross NPAs and the total loan advanced by the institution:
   GNPA Ratio = Gross non-performing assets/ Total Advances
6. **NET NPA RATIO (NNPA)**: The net NPA ratio is used as a measure of the overall quality of the financial intermediary's loan book. Net NPAs are calculated by reducing cumulative balance of provisions outstanding at a period from gross NPAs. Higher ratio reflects bad quality of loans.
   Net NPA Ratio = Net NPAs/ Total Advances
7. **CURRENT RATIO:** The current ratio is a liquidity ratio that measures a company's ability to pay short-term and long-term obligations. It considers the total current assets of the company relative to the total current liabilities of the company.
   Current Ratio = Current Assets / Current Liabilities
8. **QUICK RATIO:** The quick ratio is an indicator of a company's short-term liquidity. It measures a company's ability to meet its short-term obligations with its most liquid assets. Therefore, the ratio excludes inventories and prepaid expenses from current assets.
   Quick Ratio = (Current Assets- Inventories- Prepaid Expenses) / Current Liabilities
9. **DEBT-EQUITY RATIO:** Debt-Equity ratio is a solvency ratio used to measure a company's long-term solvency and financial leverage. It indicates how much debt a company is using to finance its assets relative to the amount of value represented in shareholder's equity.
   Debt-Equity Ratio = Long-term Debt / Total Equity
10. **SOLVENCY RATIO:** This ratio examines whether the total realizable amount from all assets of a firm is enough to repay all of its external liabilities or not. It shows the relationship between total assets and external liabilities of the company.
    Solvency Ratio = Total Outside Liabilities / Total Assets

RESULTS AND DISCUSSION

FINANCIAL PERFORMANCE OF IIFCL

The financial performance of India Infrastructure Finance Company Limited (IIFCL) for the period spanning from FY 2011 to FY 2015, measured through various accounting ratios viz. capital adequacy ratios, ROA, ROE, EPS, are as presented in Table I.

FINANCIAL PERFORMANCE OF IDFC

The financial performance of India Infrastructure Finance Company Limited (IIFCL) for the period spanning from FY 2011 to FY 2015, measured through various accounting ratios viz. capital adequacy ratios, ROA, ROE, EPS, etc. are as presented in Table II.

TABLE I: FINANCIAL RATIOS OF IIFCL FROM FY 2011 TO FY 2015

YEAR	CAPITAL ADEQUACY RATIO (%)	ROE (%)	ROA (%)	EPS (Rs.)	GNPA RATIO (%)	NNPA RATIO (%)	CURRENT RATIO	QUICK RATIO	DEBT EQUITY RATIO	SOLVENCY RATIO
2010-11	*	11.98	1.94	2.31	0.00	0.00	13.07	13.07	8.15	0.89
2011-12	*	9.80	1.41	1.72	0.00	0.00	2.88	2.88	5.73	0.87
2012-13	19.04	24.56	3.32	3.79	0.00	0.00	1.29	1.29	3.73	0.86
2013-14	24.82	18.74	2.25	2.84	3.79	2.80	4.86	4.86	5.17	0.85
2014-15	25.14	12.67	1.34	1.53	2.45	1.53	5.84	5.84	4.43	0.83

TABLE II: FINANCIAL RATIOS OF IDFC FROM FY 2011 TO FY 2015

YEAR	CAPITAL ADEQUACY RATIO (%)	ROE (%)	ROA (%)	EPS (Rs.)	GNPA RATIO (%)	NNPA RATIO (%)	CURRENT RATIO	QUICK RATIO	DEBT EQUITY RATIO	SOLVENCY RATIO
2010-11	24.30	10.30	2.10	10.78	0.70	0.20	8.47	24.78	3.63	0.77
2011-12	22.32	12.20	2.50	11.20	0.60	0.40	2.25	4.52	3.06	0.79
2012-13	22.10	14.00	2.80	12.13	0.15	0.05	2.63	3.53	2.98	0.81
2013-14	20.79	13.00	2.90	10.09	0.30	0.15	2.60	4.83	3.14	0.79
2014-15	24.00	12.90	3.00	8.56	0.20	0.10	1.45	3.77	3.25	0.80

COMPARATIVE EVALUATION OF IIFCL AND IDFC

Comparative evaluation of the financial performance of IIFCL and IDFC has been done by applying independent samples t-test to each ratio individually. The independent samples t-test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. In the present study, the t-test has been applied to various ratios for a period of only five years. Some methodologist believe that t-test must not be applied when sample sizes are extremely small (N<=5). However, some studies have proved that it is totally feasible to apply t-test on extremely small samples. (Winter, 2010)

CAPITAL ADEQUACY RATIO: An independent samples t-test was conducted to compare the Capital Adequacy Ratios (CAR) of the two companies IIFCL and IDFC. There was no significant difference between the CAR of IIFCL (M=23.00, SD= 3.43) and CAR of IDFC (M= 22.70, SD= 1.45); t (6) =1.77, p= 0.866 at 0.05 level of significance. Therefore, the alternate hypothesis ($H_1$1) is rejected and null hypothesis ($H_0$1) is accepted.

The CAR of IIFCL was nil for the FY 11 and FY 12. However, the CAR of IIFCL was lower than CAR of IDFC for the FY 13. Thereafter, the CAR of IIFCL has shown an increasing trend and has been more than CAR of IDFC for the FY 14 and FY 15. The CAR of IDFC had shown a declining trend from FY 11 to FY 14. However, it showed a slight increase from 20.79 to 24 in the FY 15.

RETURN ON EQUITY (ROE): An independent samples t-test was conducted to compare the ROE of the two companies i.e. IIFCL and IDFC. There was no significant difference in the ROE of IIFCL (M= 15.55%, SD= 6.03) and ROE of IDFC (M= 12.48%, SD= 1.37); t (8) = 1.11, p= 0.299 at 0.05 level of significance. Therefore, the alternate hypothesis ($H_1$2) is rejected and null hypothesis ($H_0$2) is accepted.

The ROE of IIFCL has shown a slight decline from 11.98% in FY 11 to 9.8% in the FY 12, thereafter showing a drastic increase to 24.56% in FY 13. However, it showed a declining trend for the FY 14 and FY 15. ROE of IDFC has shown an increasing trend from FY 11 (ROE= 10.30%) to FY 13 (ROE= 14.00%). Thereafter, it declined to 13% in FY 14 and further declined to 12.9% in FY 15.

RETURN ON ASSETS (ROA): There was no significant difference between the ROA of IIFCL (M=2.05%, SD= 0.80) and ROA of IDFC (M= 2.66%, SD= 0.36); t (8) = -1.54, p= 0.162 at 0.05 level of significance. Therefore, the alternate hypothesis ($H_1$3) is rejected and null hypothesis ($H_0$3) is accepted.

The ROA of IIFCL declined from 1.94% in FY 11 to 1.41% in FY 12, showing an increase to 3.32% in FY 13. It declined to 2.25% in FY 14 and further declined to 1.34% in FY 15. The ROA of IDFC on the other hand has shown a continuous increasing trend from FY 11 (ROA= 2.10%) to FY 15 (ROA= 3.00%).

EARNINGS PER SHARE (EPS): There was a significant difference in the EPS of IIFCL (M= ₹2.40, SD= 0.92) and EPS of IDFC (M= ₹10.55, SD= 1.33); t (8) = -11.215, p= 0.000 at 0.05 level of significance. Therefore, the alternate hypothesis ($H_1$4) is accepted and null hypothesis ($H_0$4) is not accepted.

EPS of IIFCL shows a decline from ₹ 2.13 in FY 11 to ₹ 1.72 in FY 12. Thereafter, the EPS of IIFCL increased to ₹ 3.79 in the FY 13, declining to ₹ 2.84 in FY 14 and further declining to ₹ 1.53 in FY 15. The EPS of IDFC shows an increasing trend from ₹10.78 in FY 11 to ₹12.13 in FY 13. Thereafter, it shows a declining trend to ₹ 8.56 in FY 15.

GROSS NON-PERFORMING ASSETS: There was no significant difference between the GNPA of IIFCL (M= 1.24, SD= 1.77) and GNPA of IDFC (M= 0.39, SD= 0.24); t (8) = 1.07, p= 0.315 at α= 0.05. Therefore, the alternate hypothesis ($H_1$5) is rejected and the corresponding null hypothesis ($H_0$5) is accepted.

The GNPA level of IIFCL has been at 0% from FY 11 to FY 13. Thereafter, the GNPA of IIFCL showed a drastic increase to 3.79% in FY 14 but further declined to 2.45% in FY 15. The GNPA ratio of IDFC showed a declining trend from 0.7% in FY 11 to 0.15% in FY 13. Thereafter, there was an increase in GNPA ratio of IDFC to 0.3% in FY 14, but declined slightly to 0.2% in FY 15.

NET NON-PERFORMING ASSETS: There was no significant difference between the NNPA ratio of IIFCL (M= 0.86, SD= 1.26) and NNPA ratio of IDFC (M= 0.18, SD= 0.13); t (8) = 1.20, p= 0.263 at α= 0.05. Therefore, the alternate hypothesis ($H_1$6) is rejected and corresponding null hypothesis ($H_0$6) is accepted.

The NNPA ratio of IIFCL has been 0% from FY 11 to FY 13, due to absence of GNPA for the said period. However, it increased to 2.80% for the FY 14 and declined to 1.53% in FY 15. The NNPA ratio of IDFC on the other hand showed an increase from 0.2% in FY 11 to 0.4% in FY 12. It declined to 0.05% in FY 13, increased to 0.15% in FY 14 and declined again to 0.1% in FY 15.

CURRENT RATIO: There was no significant difference between the current ratio of IIFCL (M= 5.58, SD= 4.53) and current ratio of IDFC (M= 3.48, SD= 2.82); t (8) = 0.88, p= 0.404, at α= 0.05. Therefore, the alternate hypothesis ($H_1$7) is rejected and the corresponding null hypothesis ($H_0$7) is accepted.

Current ratio of IIFCL was as high as 13.07 for FY 11, declined drastically to 2.88 in FY 12, and went below the desired level of 2:1 in FY 13 at 1.29. However, it rose to 4.86 in FY 14 and further increased to 5.84 in FY 15. The current ratio of IDFC was high at 8.47 for FY 11, declined to 2.25 for FY 12 but slightly increased to 2.63 for FY 13. It declined to 2.60 in FY 14 and further declined to 1.45 (below the desired level of 2:1) for FY 15.

QUICK RATIO: There was no significant difference between the quick ratio of IIFCL (M= 5.58, SD= 4.53) and quick ratio of IDFC (M= 8.28, SD= 9.23); t (8) = -0.58, p= 0.574 at α= 0.05. Therefore, the alternate hypothesis ($H_1$8) is rejected and the corresponding null hypothesis ($H_0$8) is accepted.

The quick ratio of IIFCL was as high as 13.07 for FY 11, declined to 2.88 for FY 12, and further declined to 1,29 for FY 13. However, it increased to 4.86 for FY 14 and was 5.84 for FY 15. The quick ratio of IDFC has been more than the quick of IIFCL for the FY 11, FY 12 and FY 13. It became almost equal to quick ratio of IIFCL for FY 14 and was below that of IIFCL for FY 15. However, the quick ratio of both IIFCL and IDFC was not below the desired level of 1:1 for any financial year.

DEBT-EQUITY RATIO: There was a significant difference between the debt-equity ratio of IIFCL (M= 5.44, SD= 1.69) and debt-equity ratio of IDFC (M= 3.21, SD= 0.25); t (8) = 2.91, p= 0.019 at α= 0.05. Therefore, the alternate hypothesis ($H_1$9) is accepted and the corresponding null hypothesis ($H_0$9) is not accepted.

The debt-equity ratio of IIFCL has shown a decline from 8.15 for FY 11 to 3.73 for FY 13. It increased to 5.17 for FY 14 and declined again to 4.43 for FY 15. The debt-equity ratio of IDFC showed a declining trend from 3.63 for FY 11 to 2.98 for FY 13, increased to 3.14 for FY 14 and further increased to 3.25 for FY 15.

SOLVENCY RATIO: There was a significant difference between the solvency ratio of IIFCL (M= 0.86, SD= 0.02) and the solvency ratio of IDFC (M= 0.79, SD= 0.01); t (8) = 5.66, p= 0.000 at α= 0.05. Therefore, the alternate hypothesis ($H_1$10) is accepted and we fail to accept the corresponding null hypothesis ($H_0$10).

The solvency ratio of IIFCL has shown a continuous decline from 0.89 in FY 11 to 0.83 in FY 15. The solvency ratio of IDFC increased from 0.77 in FY 11 to 0.79 in FY 12 to 0.81 in FY 13. It declined to 0.79 in FY 14 and slightly increased to 0.80 in FY 15.

CONCLUSION

The present study attempted to comparatively evaluate the financial performance of the two major IFCs in India, viz. India Infrastructure Finance Company Limited (IIFCL) and Infrastructure Development Finance Company (IDFC) for a period of 5 years from FY 11 to FY 15. The comparison was based on ten financial ratios describing the liquidity position, the capital adequacy, the solvency position, etc. of the companies. The comparative evaluation was done with the application of independent samples t-test on each ratio individually, level of significance being at 0.05. The comparative performance of the companies was also studied with the help of suitable graphs. The following null hypothesis were rejected:

$H_0$4: There is no significant difference between the earnings per share of IIFCL and IDFC.

$H_0$9: There is no significant difference between the debt-equity ratios of IIFCL and IDFC.

$H_0$10: There is no significant difference between the solvency ratios of IIFCL and IDFC.

As the results reveal, there is no significant difference between the capital adequacy positions of the two companies as well as between the long-term profitability position of the companies explained by the ROE and ROA of the companies. However, a significant difference exists regarding the earnings per share of the two companies, where IDFC shows a much better performance compared to IIFCL (see Table 4). There is also no significant difference in the performance of the companies regarding their NPA level and liquidity position, as explained by the current ratio and quick ratio. The companies have shown a significant difference in performance only on the solvency front. As shown in Table 9 and Table 10, there has been a significant difference between the solvency position of IIFCL and IDFC, where, IIFCL shows a better performance as compared to IDFC. It can also be seen that except the performance of the companies depicted by EPS and quick ratio, the performance parameters i.e. the financial ratios of IIFCL have shown less stability (more deviations from mean) as compared to the financial ratios of IDFC.

LIMITATIONS OF THE STUDY

The following are the limitations of the study:

1) The study is confined only to a period of five years. A longer time period may provide different results.
2) The financial performance of the firms is studied only on the basis of few selected financial ratios. Use of more ratios will give a better view of the performance of the companies.
3) The study only analyses the financial performance of the companies. Performance of the companies can also be studied in a broader perspective.
4) Only two of the infrastructure finance companies viz. IIFCL and IDFC have been chosen for the study. Performance evaluation of other IFCs will provide a better understanding of the functioning of IFCs as a whole.

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CRYPTOCURRENCY: DAWN OF A NEW ECONOMY

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ABSTRACT

People started using the Internet because it gave borderless, permission-less, fast and cheap access to the world's information and communication. Similarly, Bitcoin enables borderless, permission less, fast and cheap access to the world of finance. After the 2008 financial crisis and the current global financial crisis, the world is increasingly realizing the weaknesses of our current financial system. A majority of central banks in the world now have 0 interest rates. Countries like Russia, Latin America have seen record breaking currency devaluations. Bitcoin provides the vision of a new era in the financial world. By purchasing bitcoins, it allows ordinary people to protect themselves from the possibility of a sudden drop in the purchasing power of their money because of a debt ridden government. The current western financial infrastructure based on banks, credit card companies and a mishmash of different payment networks is at a very early stage in India. 60% of our population is unbanked and credit and debit card penetration is in single digit percentages. Our PM and the RBI both have financial inclusion as a top priority. Just like mobile phones helped India skip the landline generation in connecting a billion Indians, embracing Bitcoins can help India skip the current generation of financial infrastructure and move India directly to the future of finance. The current paper is an attempt to study the future growth perspectives of cryptocurrency like Bitcoin's in India and how people of India can take advantage from these digital currencies. The research was done on the basis of secondary data taken from books, journals, newspaper articles and magazines. The research findings show that cryptocurrencies have extensive growth prospect in India. India is perfect as a society to be at the forefront of developing a vibrant crypto-currency economy.

KEYWORDS

Cryptocurrency, Bitcoins, Miners, Ethereum, Litecoin, Ripple, Namecoin, PPCoin.

INTRODUCTION

In a world when everything seems to be going the virtual way, why not virtual currencies? As it happens, cryptocurrencies have been in existence for quite some time and many believe they are the future of currency. The market value is proof of this.

A cryptocurrency is a digital or virtual currency that uses cryptography for security. A cryptocurrency is difficult to counterfeit because of this security feature. A defining feature of a cryptocurrency, and arguably its most endearing allure, is its organic nature; it is not issued by any central authority, rendering it theoretically immune to government interference or manipulation.

The first cryptocurrency to capture the public imagination was Bitcoin, which was launched in 2009 by an individual or group known under the pseudonym Satoshi Nakamoto. As of September 2015, there were over 14.6 million bitcoins in circulation with a total market value of $3.4 billion. Bitcoin's success has spawned a number of competing cryptocurrencies, such as Litecoin, Namecoin and PPCoin.

BITCOIN IS THE INTERNET OF MONEY

A financial infrastructure based on Bitcoin and its underlying technology Blockchain will herald a revolution just like the Internet. Very similar to the Internet, Bitcoin is a free to join, open source, decentralized network. Bitcoin is a sound currency which has all the best characteristics of sound money. And the Bitcoin network is the fastest, cheapest and easiest way to send money from one person to the other. Already progressive governments like the UK and Singapore are pro Bitcoins and trying to attract Bitcoin companies to operate in their jurisdiction by providing them favourable working conditions.

WHAT ARE CRYPTOCURRENCIES REALLY?

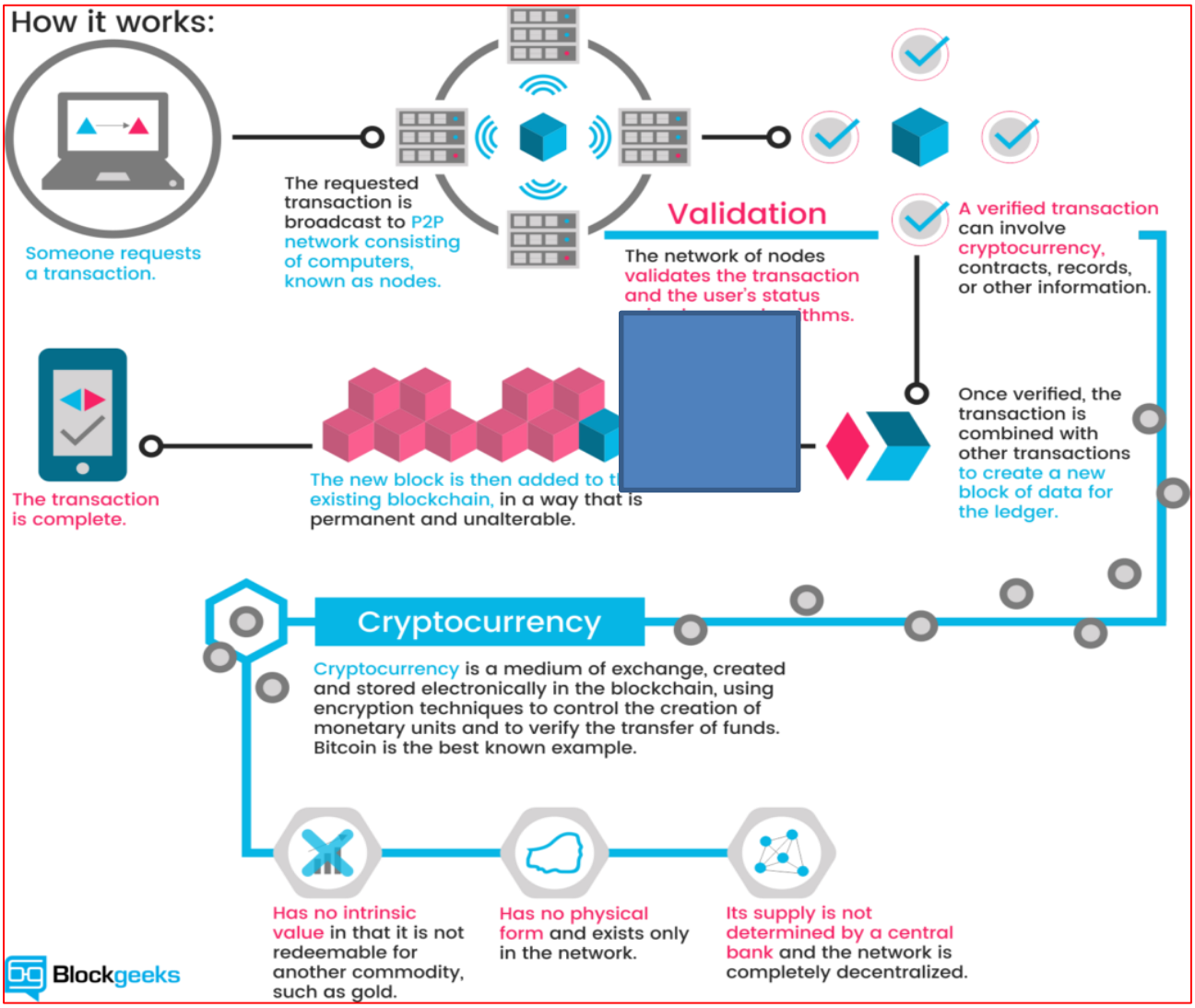
If you take away all the noise around cryptocurrencies and reduce it to a simple definition, you find it to be just limited entries in a database no one can change without fulfilling specific conditions. This may seem ordinary, but, believe it or not: this is exactly how we can define a currency.

Take the money on your bank account: What is it more than entries in a database that can only be changed under specific conditions? You can even take physical coins and notes: What are they else than limited entries in a public physical database that can only be changed if you match the condition than you physically own the coins and notes? Money is all about a verified entry in some kind of database of accounts, balances, and transactions.

HOW MINERS CREATE COINS AND CONFIRM TRANSACTIONS?

Let's have a look at the mechanism ruling the databases of cryptocurrencies. A cryptocurrency like Bitcoin consists of a network of peers. Every peer has a record of the complete history of all transactions and thus of the balance of every account. A transaction is a file that says, "Bob gives X Bitcoin to Alice" and is signed by Bob's private key. It's basic public key cryptography, nothing special at all. After signed, a transaction is broadcasted in the network, sent from one peer to every other peer. This is basic p2p-technology. Nothing special at all, again.

FIG. 1



The transaction is known almost immediately by the whole network. But only after a specific amount of time it gets confirmed. Confirmation is a critical concept in cryptocurrencies. You could say that cryptocurrencies are all about confirmation. As long as a transaction is unconfirmed, it is pending and can be forged. When a transaction is confirmed, it is set in stone. It is no longer forgeable, it can't be reversed, it is part of an immutable record of historical transactions: of the so-called blockchain. Only miners can confirm transactions. This is their job in a cryptocurrency-network. They take transactions, stamp them as legit and spread them in the network. After a transaction is confirmed by a miner, every node has to add it to its database. It has become part of the blockchain. For this job, the miners get rewarded with a token of the cryptocurrency, for example with Bitcoins.

WHAT ARE MINERS DOING?

Principally everybody can be a miner. Since a decentralized network has no authority to delegate this task, a cryptocurrency needs some kind of mechanism to prevent one ruling party from abusing it. Imagine someone creates thousands of peers and spreads forged transactions. The system would break immediately.
So, Satoshi set the rule that the miners need to invest some work of their computers to qualify for this task. In fact, they have to find a hash – a product of a cryptographic function – that connects the new block with its predecessor. This is called the Proof-of-Work. In Bitcoin, it is based on the **SHA 256 Hash algorithm**.

REVOLUTIONARY PROPERTIES

Basically, cryptocurrencies are entries about token in decentralized consensus-databases. They are called **CRYPTO currencies** because the consensus-keeping process is secured by strong cryptography. Cryptocurrencies are built on cryptography. They are not secured by people or by trust, but by math. It is more probable that an asteroid falls on your house than that a bitcoin address is compromised. Describing the properties of cryptocurrencies we need to separate between transactional and monetary properties. While most cryptocurrencies share a common set of properties, they are not carved in stone.

TRANSACTIONAL PROPERTIES

1.) **Irreversible:** After confirmation, a transaction can't be reversed. By nobody. And nobody means nobody. Not you, not your bank, not the president of the United States, not Satoshi, not your miner. Nobody. If you send money, you send it. No one can help you, if you sent your funds to a scammer or if a hacker stole them from your computer. There is no safety net.
2.) **Pseudonymous:** Neither transactions nor accounts are connected to real world identities. You receive Bitcoins on so-called addresses, which are randomly seeming chains of around 30 characters. While it is usually possible to analyse the transaction flow, it is not necessarily possible to connect the real world identity of users with those addresses.
3.) **Fast and global:** Transaction is propagated nearly instantly in the network and is confirmed in a couple of minutes. Since they happen in a global network of computers they are completely indifferent of your physical location. It doesn't matter if I send Bitcoin to my neighbour or to someone on the other side of the world.
4.) **Secure:** Cryptocurrency funds are locked in a public key cryptography system. Only the owner of the private key can send cryptocurrency. Strong cryptography and the magic of big numbers make it impossible to break this scheme. A Bitcoin address is more secure than Fort Knox.

5.) **Permission less**: You don't have to ask anybody to use cryptocurrency. It's just a software that everybody can download for free. After you installed it, you can receive and send Bitcoins or other cryptocurrencies. No one can prevent you. There is no gatekeeper.

MONETARY PROPERTIES

1.) **Controlled supply**: Most cryptocurrencies limit the supply of the tokens. In Bitcoin, the supply decreases in time and will reach its final number somewhere in around 2140. All cryptocurrencies control the supply of the token by a schedule written in the code. This means the monetary supply of a cryptocurrency in every given moment in the future can roughly be calculated today. There is no surprise.

2.) **No debt but bearer**: The Fiat-money on your bank account is created by debt, and the numbers, you see on your ledger represent nothing but debts. It's a system of IOU. Cryptocurrencies don't represent debts. They just represent themselves. They are money as hard as coins of gold.

To understand the revolutionary impact of cryptocurrencies you need to consider both properties. Bitcoin as a permissionless, irreversible and pseudonymous means of payment is an attack on the control of banks and governments over the monetary transactions of their citizens. You can't hinder someone to use Bitcoin, you can't prohibit someone to accept a payment, you can't undo a transaction.

As money with a limited, controlled supply that is not changeable by a government, a bank or any other central institution, cryptocurrencies attack the scope of the monetary policy. They take away the control central banks take on inflation or deflation by manipulating the monetary supply.

DIFFERENT TYPES OF CRYPTOCURRENCIES

While Bitcoin remains by far the most famous cryptocurrency and most other cryptocurrencies have zero non-speculative impact, investors and users should keep an eye on several cryptocurrencies. Here we present the most popular cryptocurrencies of today.

BITCOIN - The one and only, the first and most famous cryptocurrency. Bitcoin serves as a digital gold standard in the whole cryptocurrency-industry, is used as a global means of payment and is the de-facto currency of cyber-crime like dark net markets or ransomware. After seven years in existence, Bitcoin's price has increased from zero to more than 650 Dollar, and it's transaction volume reached more than 200.000 daily transactions.

ETHEREUM - The brainchild of young crypto-genius Vitalik Buterin has ascended to the second place in the hierarchy of cryptocurrencies. Other than Bitcoin its blockchain does not only validate a set of accounts and balances but of so-called states. This means that Ethereum can not only process transactions but complex contracts and programs. This flexibility makes Ethereum the perfect instrument for "blockchain"-application. But it comes at a cost. After the Hack of the DAO – an Ethereum based smart contract – the developers decided to do a hard fork without consensus, which resulted in the emerge of Ethereum Classic. Beside this, there are several clones of Ethereum, and Ethereum itself is a host of several Token like DigixDAO and Augur. This makes Ethereum more a family of cryptocurrencies than a single currency.

RIPPLE - Maybe the less popular – or most hated – project in the cryptocurrency community is Ripple. While Ripple has a native cryptocurrency – XRP – it is more about a network to process IOUs than the cryptocurrency itself. XRP, the currency, doesn't serve as a medium to store and exchange value, but more as a token to protect the network against spam. Ripple Labs created every XRP-token, the company running the Ripple network, and is distributed by them on will. For this reason, Ripple is often called pre-mined in the community and dissed as no real cryptocurrency, and XRP is not considered as a good store of value. Banks, however, seem to like Ripple. At least they adopt the system with an increasing pace.

LITECOIN - Litecoin was one of the first cryptocurrencies after Bitcoin and tagged as the silver to the digital gold bitcoin. Faster than bitcoin, with a larger amount of token and a new mining algorithm, Litecoin was a real innovation, perfectly tailored to be the smaller brother of bitcoin. "It facilitated the emerge of several other cryptocurrencies which used its codebase but made it, even more, lighter". Examples are Dogecoin or Feathercoin. While Litecoin failed to find a real use case and lost its second place after bitcoin, it is still actively developed and traded and is hoarded as a backup if Bitcoin fails.

MONERO - Monero is the most prominent example of the cryptonite algorithm. This algorithm was invented to add the privacy features Bitcoin is missing. If you use Bitcoin, every transaction is documented in the blockchain and the trail of transactions can be followed. With the introduction of a concept called ring-signatures, the cryptonite algorithm was able to cut through that trail. The first implementation of cryptonite, Bytecoin, was heavily premined and thus rejected by the community. Monero was the first non-premined clone of bytecoin and raised a lot of awareness. Monero's popularity peaked in summer 2016 when some darknetmarkets decided to accept it as a currency. This resulted in a steady increase in the price, while the actual usage of Monero seems to remain disappointingly small.

Besides those, there are hundreds of cryptocurrencies of several families. Most of them are nothing more than attempts to reach investors and quickly make money, but a lot of them promise playgrounds to test innovations in cryptocurrency-technology.

FIG. 2

#	Name	Market Cap	Price	Available Supply	Volume (24h)	% Change (24h)	Price Graph (7d)
1	Bitcoin	$11,382,240,050	$712.76	15,969,336 BTC	$67,288,200	-1.60%	
2	Ethereum	$904,848,975	$10.54	85,831,133 ETH	$4,069,260	-1.21%	
3	Ripple	$290,446,848	$0.008121	35,765,131,899 XRP *	$2,386,420	0.26%	
4	Litecoin	$184,904,214	$3.82	48,378,029 LTC	$2,258,970	-1.05%	
5	Monero	$83,466,495	$6.27	13,311,446 XMR	$3,134,490	5.38%	
6	Ethereum Classic	$80,817,441	$0.942637	85,735,486 ETC	$603,573	2.21%	
7	Dash	$66,519,213	$9.68	6,874,532 DASH	$596,632	-0.77%	
8	Augur	$52,038,360	$4.73	11,000,000 REP *	$396,072	6.38%	
9	NEM	$37,322,550	$0.004147	8,999,999,999 XEM *	$86,817	4.40%	
10	Waves	$35,727,500	$0.357275	100,000,000 WAVES *	$133,650	-3.94%	

CRYPTOCURRENCY BENEFITS AND DRAWBACKS

Cryptocurrencies make it easier to transfer funds between two parties in a transaction; these transfers are facilitated through the use of public and private keys for security purposes. These fund transfers are done with minimal processing fees, allowing users to avoid the steep fees charged by most banks and financial institutions for wire transfers.

Central to the genius of Bitcoin is the block chain it uses to store an online ledger of all the transactions that have ever been conducted using bitcoins, providing a data structure for this ledger that is exposed to a limited threat from hackers and can be copied across all computers running Bitcoin software. Many experts see this block chain as having important uses in technologies, such as online voting and crowdfunding, and major financial institutions such as JP Morgan Chase see potential in cryptocurrencies to lower transaction costs by making payment processing more efficient.

However, because cryptocurrencies are virtual and do not have a central repository, a digital cryptocurrency balance can be wiped out by a computer crash if a backup copy of the holdings does not exist. Since prices are based on supply and demand, the rate at which a cryptocurrency can be exchanged for another currency can fluctuate widely.

Cryptocurrencies are not immune to the threat of hacking. In Bitcoin's short history, the company has been subject to over 40 thefts, including a few that exceeded $1 million in value. Still, many observers look at cryptocurrencies as hope that a currency can exist that preserves value, facilitates exchange, is more transportable than hard metals, and is outside the influence of central banks and governments.

STATE OF BITCOINS IN 2016

Since the beginning of the year, global economic landscape witnessed a disastrous start with all major stock exchanges around the world taking a nosedive. Some respected financial services firms like UK's RBS have even suggested their investors to sell everything. They have predicted a global recession, worse than 2008 comparing the current scenario with that before the Lehman Brothers crises. The world is in an unprecedented economic crisis with the value of commodities and currencies nose diving. In such gloomy situations, investors will prefer to diversify their portfolio, especially where the future lies. Since the supply of Bitcoins is fixed, its increasing demand has pushed the price of Bitcoin from a few Rs in 2010 to more than Rs 25,000 currently. In the next 5 years as the supply reduces further and more and more people adopt Bitcoins, the price is expected to scale new highs. Generally, when market is going to witness some sort of scarcity or controlled supply in a promising concept – like Bitcoin, the demand starts rising with positive sentiments. That said, markets start making speculative moves and this pushes its price upwards thus building pressure to grab the opportunity and get share in the revolutionary future.

Global Bitcoin trade is skyrocketing touching 35 billion USD per month in December 2015. Billion dollar companies like Dell, Expedia, Overstock, Rakuten (Japan's Flipkart) have started accepting Bitcoins on their websites.

Bitcoin companies raised almost 1 billion USD in VC funding in 2015. All the major banks and credit card companies have got involved with Bitcoins last year. So in just 6 years of its existence, Bitcoin has achieved spectacular success.

In India, Bitcoin adoption has had a slow start but awareness is growing rapidly. Bitcoin trade in India grew exponentially and is at an estimated Rs 500 crores per year. There are around 50,000 Bitcoin wallets in India and around 700-800 Bitcoins are traded every day. RBI, in its recent report on financial stability, has appreciated the strengths of the underlying 'blockchain' technology. India's leading law firm Nishith Desai Associates and the Center for Internet and Society, both have published white papers stating that Bitcoins is legal in India under all existing laws. After early adopters, Bitcoins is attracting a new class of users like professionals, HNIs and all institutions. As the Bitcoin community matures, we shall see an increase in the quality of analysis of Bitcoins price. Users are now using bitcoin for eCommerce, airtime top up, paying bills, buying gift vouchers from popular online retail sites. Bitcoin transactions in India are about Rs 500 crores a year. We believe India will see an explosion in bitcoins over next 2 years. China does a volume of more than Rs 10,000 crores per 'day' (no typos here) India is where U.S and China were in 2013. About 40% of the population across the country does not have bank accounts. Bitcoin wallets could be used in remote areas without the need for brick and mortar banks.

CONCLUSION

The market of cryptocurrencies is fast and wild. Nearly every day new cryptocurrencies emerge, old die, early adopters get wealthy and investors lose money. Every cryptocurrency comes with a promise, mostly a big story to turn the world around. Few survive the first months, and most are pumped and dumped by speculators and live on as zombie coins until the last bag holder loses hope ever to see a return on his investment.

INDIA, A POTENTIAL HOTSPOT

India is a potential hotspot for growth of cryptocurrencies and the community. It seems the cryptocurrencies user community in India has quite a strong base, exceeding 50K in number. But the regulatory body such as RBI seems far from regulating or accepting it. However, this has given an opportunity for the cryptocurrency community in India to expand, develop cryptocurrencies-related businesses in the space, and educate people on the opportunities for economic growth associated with cryptocurrencies.

India is the world's biggest remittance market at more than $70 billion. The majority of the remittance is small amounts of around $200. For small amounts especially, users end up paying up to 15% in fees to companies like PayPal, Western Union or to banks through transfer and exchange rate fees. Bitcoin makes it extremely easy to send a small remittance back home. This could save India up to $7 billion in fees paid to third party and add to country's wealth.

The revolution is already happening. Institutional investors start to buy cryptocurrencies. Banks and governments realize that this invention has the potential to draw their control away. Cryptocurrencies change the world, step by step. You can either stand beside and observe – or you can become part of history in the making.

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