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Teachers' Attitude towards Continuous and Comprehensive Evaluation: A Comparison of Government and Private Schools of Delhi

Manju Mann*

Abstract: *The success of any innovation in the field of education depends greatly upon its proper implementation by the practitioners. The implementation depends upon practitioners' attitude towards Continuous and Comprehensive Evaluation as per CBSE scheme. Teachers should have sound attitude towards Continuous and Comprehensive Evaluation. It lays emphasis on thought process and de-emphasizes memorization. CCE uses a variety of ways to collect information about the learner's learning and progress in different subjects and co-curricular activities. For studying the school teachers' attitude towards CCE, the study has been conducted on 200 school teachers in all, equal number from each of the school (10 teachers from 10 Government and 10 Private schools) as well as subject wise (Hindi, English, Social Science, Mathematics and Science) 2 teachers from each school were selected. The sample of 200 school teachers has been selected through random sampling method. A self made attitude scale based on 5 point Likert's scale for assessing the school teachers' attitude towards CCE has been used by researcher. In Attitude scale, 40 items has been responded by 100 Government and 100 Private school teachers.*

Keywords: *Attitude, Continuous, Comprehensive and Evaluation.*

1. INTRODUCTION

"If we wish to discover the truth about an educational system, we must look into its assessment procedures"

- Rowntree, 1977

The aim of education is to prepare the children as responsible, productive and useful members of the society. We can create knowledge, skills and attitudes in the children by providing learning experiences and opportunities in school. Learners can analyze and evaluate their experiences, learn to doubt, to question, to investigate and to think independently in the classroom. The purpose of education simultaneously reflects the current needs and aspirations of the society as well as its lasting values and human ideals. It can be called contemporary and contextual articulations of broad and lasting human aspirations and values.

Board vide its Advisory No. 39 dated 20.9.2009 introduced Examination Reforms and Continuous and Comprehensive Evaluation in the CBSE. The first phase of teacher training was initiated in

October, 2009 and carried on till December. Continuous and Comprehensive Evaluation was a process of assessment, mandated by the Right to Education Act, 2009 in India. CCE method is claimed to bring enormous changes from the traditional chalk and talk method of teaching provided it is implemented accurately.

Classroom practices can be improved through understanding of learners, educational aims, the nature of knowledge and school as a social organization. Conceptual development helps in deepening and enriching connections and acquiring new layers of meaning. Simultaneously, theories of natural and social world development help the children to understand the cause and effect relationship of the things. Cognitive development includes attitude, emotions and values which are linked to the development of language, mental representations, concepts and reasoning.

Meta-cognitive capabilities among children help them to aware about their own beliefs and make them capable to regulate their own learning.

The goal of education is to modify the behavior of pupils in desired direction. We assess only how well the learner has grasped the content, but how well the content, methods of instruction and instructional material used, have been effective in achieving the pre-determined objectives. As such assessment becomes an important constituent of education process. The process of evaluation uses different types of tools including achievement, aptitude and personality tests. Every teacher must be trained in test development technology and its classroom applications.

Education process is a chain of activities, formulating and stating objectives, selecting and planning learning experiences, organizing learning experiences and ascertaining

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whether the pre-defined educational objectives have been achieved. Evaluation is mostly used at the last stage. Traditionally, assessment was conducted at the completion of the syllabus and served as summative assessment. But with the advent of modern theories of learning and instruction, the process of assessment has acquired new dimensions with an interventionist role in the improvement of instructional process. In other words, assessment has potential to improve the quality of teaching and learning in classroom situations. This is the formative function of assessment.

Evaluation plays an important role in teaching and learning process especially at the school level. From time to time, a teacher needs to know as to how far he/she is able to achieve the instructional objectives set forth. And also the teacher should be interested and keen to find out how far the children's performance has changed and to what extent the child has progressed in different dimensions related to the classroom transaction. This is an attempt to assess regularly from time to time, the desirable change among the students as per the desired educational objectives in different dimensions by using various techniques and tools.

For instance, the regular tests, assignments and terminal quarter wise and half- yearly examinations are conducted by using written, oral and practical activities to know the progress by way of scoring the performance on some criteria. Similarly the other activities like games, sports, library activities, child's physical health, good habits, interests, attitudes, cultural, social and community services related activities are included in Continuous and Comprehensive Evaluation (CCE) system. For these activities, it is not possible to use formal tools. Instead, various other informal tools like observation schedules, rating scales, checklists, anecdotal records and medical reports are used.

In spite of our familiarity with various terms like test, examination, measurement, assessment, appraisal used in relation to educational evaluation, most of the teachers and even teacher-educators and some educators do not properly use these terms in educational contexts. This not only makes the communication problematic among themselves but even leads to differences in opinions which creates problems for pupils too. It is therefore, essential that real connotations of these terms can be made clear with reference to evaluation. Unless the nature, purpose and scope of these terms are clear, it may be difficult to appreciate the role and function of evaluation in the teaching and learning process.

There is a need of understanding the way evaluation is related to instructional objectives, content of teaching, instruction, and learning experiences. This would help the students to appreciate as to how the role of evaluation is significant in validating the whole educational process. Another important

point to understand is that evaluation is concerned not only with measurement of learners' achievement and certification of their achievement but also in improving their achievement. As such, it is also necessary to discuss both the measurement as well as the pedagogical value of education. It provides the empirical basis for undertaking remedial instruction by teachers to make up the deficiencies of students in general and poor performers in particular. It is in this context that students, teachers as well as practicing teachers must realize that evaluation should not only be considered as a measuring device to measure students' achievement but also as a pedagogical device to improve their achievement for better performance.

Measurement is mainly concerned with collection and gathering of data e.g. students' scores in an examination. It is the process in which physical properties of objects such as length and mass are measured. Similarly, it measures the psychological characteristics such as neuroticism, and attitudes towards various phenomena in the behavioral sciences. The measurement assigns a score on a given task performed by the learner e.g., 33/50 i.e. thirty three out of fifty.

Thus, we find that evaluation includes both assessment and measurement. Assessment and measurement are narrower terms than the term evaluation. It can be represented as

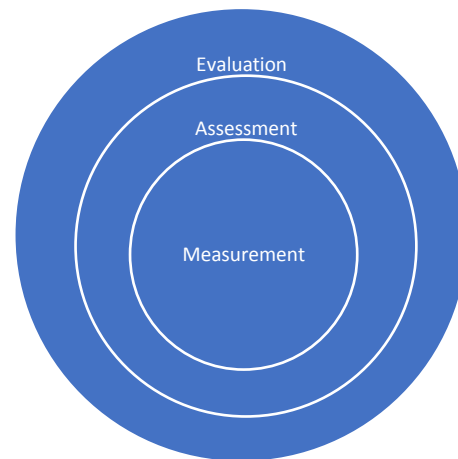


Fig. 1. Representation of Measurement, Assessment and Evaluation

The term Assessment means the act of judging the progress of an ongoing activity and answers the question 'how well'? Numerals are also assigned to the activity which is being assessed, to represent the level of its progress at a particular point of time. For example, a teacher may be interested in knowing how well his students are doing towards the achievement of educational objectives as the teaching work progresses. A factory owner may be interested in knowing

how well his work is progressing. He may have to carry out periodic assessment for this purpose. There is very thin line of demarcation in the meanings of measurement and assessment.

Assessment is narrower than evaluation but broader than measurement. In its origination, the word assess means “to sit beside” or “to assist the judge”. It is the process of gathering the data and fashioning them into an interpretable form. Judgment can be done on the basis of the assessment. Let us take an example of testing of school children by Secondary Board. Tests are administered in reading, writing, science and other academic areas. Based on the information provided by the Secondary Board, all citizens, educators and political leaders then make judgments about the effectiveness of the education system. Assessment is the final decision making step in evaluation e.g., the decision to continue, modify or terminate an educational programme.

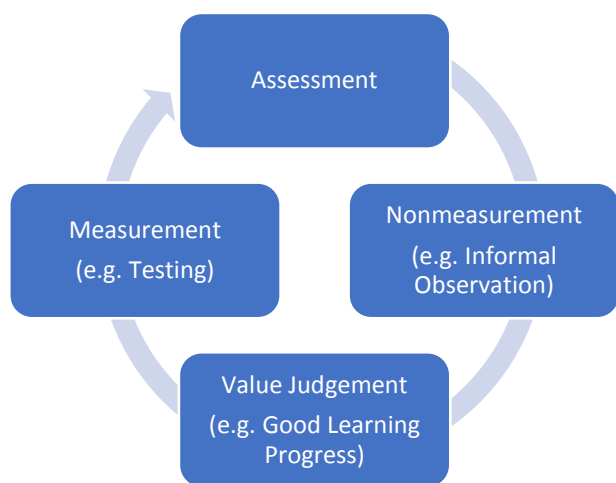


Fig. 2. The Assessment Process

Evaluation means the quality of results obtained through the processes of measurement and assessment. It involves value judgment and obtains the answer of the question ‘how good’ or ‘how well’. Its results depend on their adequacy or suitability for some purposes which is characterized by an element of decision- making.

2. STATEMENT OF THE PROBLEM

On the basis of the above exposition, the researcher chose the following problem for investigation, “Teachers’ Attitude towards Continuous and Comprehensive Evaluation: A Comparison of Government and Private Schools”.

3. METHODOLOGY OF THE STUDY

The present study falls under the domain of descriptive research. For this study, teachers of Government and Private

Schools of Delhi who were teaching subjects like Hindi, English, Social Science, Mathematics and Science to IXth class students were given attitude scale. Survey method of research is used to answer questions that have been raised to solve problems which have been observed to assess needs and set goals. An attitude scale was developed trying to measure the attitude of the target group on certain key points/objectives.

At least 58 questions were framed to know their attitude towards objectives. The scale was structured in the Likert fashion that is on a 5-point scale which ranges from “Strongly Agree (SA)”, “Agree (A)”, “Undecided (U)”, “Disagree (D)” to “Strongly Disagree (SD)”. Respondents were then, instructed to respond to their degree of agreement with the statements of the scale. Since the sample of the attitude of teachers towards CCE is the Government and Private secondary school teachers in the present study. The attitude scale included the three major categories relating to CCE to see the difference in attitude of Government and Private school teachers towards CCE as per CBSE Scheme which were as-

SECTION-1: Concept of Continuous and Comprehensive Evaluation

SECTION-2: Impact of Continuous and Comprehensive Evaluation on Teachers

SECTION-3: Implementation of Continuous and Comprehensive Evaluation in the light of Tools and Techniques

4. OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To study Government school teachers’ attitude towards Continuous and Comprehensive Evaluation as per CBSE scheme.
2. To study Private school teachers’ attitude towards Continuous and Comprehensive Evaluation as per CBSE scheme.
3. To compare Government and Private school teachers’ attitude towards Continuous and Comprehensive Evaluation as per CBSE scheme.

5. DEFINITIONS OF TECHNICAL TERMS USED

ATTITUDE:

Attitude is defined operationally as an individual’s degree of liking or disliking of an item which has been measured by an

attitude scale based on Likert's scale developed by the investigator.

Attitude towards CCE refers to teacher's reactions in a certain way to grade, see and interpret them according to certain predispositions. Attitude towards grading is inextricably related to values that the teachers hold. Good practice of CCE is linked to making effective use of the procedures suggested for evaluation and execution of the system in the manner it is desired.

CONTINUOUS

It includes the regularity of assessment, frequency of unit testing, diagnosis of learning gaps, use of corrective measures, re-testing and feedback of evidence to teachers and students for their self evaluation. Continuous means regularity in assessment. It should be evaluated continuously and the progress of the learner should be evaluated frequently (periodically) because growth of the child is a continuous phenomenon. The 'Continuous' aspect of Continuous and Comprehensive Evaluation System includes Continual' and 'Periodicity' aspects of evaluation. Continual means assessment of students in the beginning of instructions (placement evaluation) and assessment during the instructional process (formative evaluation) by using multiple techniques of evaluation. Periodicity means assessment of performance done frequently at the end of unit/term (summative).

COMPREHENSIVE

The term Comprehensive includes both the scholastic and co-scholastic areas of pupil's growth. In fact, comprehensive evaluation covers the student's experiences in their school activities. It includes physical, intellectual, emotional and social growth comprising of social personal qualities, interest, attitude and values.

Comprehensive evaluation is carried out by using variety of techniques of evaluation. 'Comprehensive' component of Continuous and Comprehensive Evaluation System means assessment of all round development of the child's personality. It includes assessment in Scholastic as well as Co-scholastic aspects of the pupil's growth. Scholastic aspects include curricular areas or subject specific areas, whereas co-scholastic aspects include life-skills, co-curricular activities, attitudes and values.

EVALUATION

According to Grondlund (2003), "Evaluation is a much more comprehensive and inclusive term than measurement. Evaluation includes both qualitative and quantitative descriptions of pupil behavior plus value judgments concerning the desirability of that behavior."

Evaluation = Qualitative description+ Quantitative description+ Value judgment

TOOLS USED: The tool used for the study was a self developed tool in the form of attitude scale covering Concept of Continuous and Comprehensive Evaluation, Impact of Continuous and Comprehensive Evaluation on Teachers and Implementation of Continuous and Comprehensive Evaluation in the light of Tools and Techniques. After consulting relevant literature and suggestions of group of experts in the field of education, 40 items were finalized by researcher to prepare self made attitude scale. Further, the response format included a 5 point Likert scale, so that respondents could indicate the frequency of agree or disagree with the statements relating to Continuous and Comprehensive Evaluation.

SAMPLE

A sample of 200 government and private school teachers of Delhi in all, equal number from each of the school (10 teachers from 10 Government and 10 Private schools) as well as subject wise (Hindi, English, Social Science, Mathematics and Science), 2 teachers from each school was chosen randomly for the study.

PROCEDURE

The attitude scale was developed by the researcher. An average subject requires approximately 15 to 25minutes in completing the scale. The attitude scale consisted of 40 items involving a range of aspects relating to Continuous and Comprehensive Evaluation. Further, the response format included a 5 point Likert scale, so that respondents could indicate the frequency of agree or disagree with the statements relating to Continuous and Comprehensive Evaluation.

The distribution of scores on these three aspects was kept in continuum. In the beginning of the scale, directions were given and subjects were clearly instructed to tick (√) any one point against a statement after reading it carefully. School teachers expressed their views by going through the relative statements and marked tick after selecting right and appropriate option for them. This attitude scale was a rating scale banned or fire point as-

Strongly Agree	Agree	Can't Say/Undecided	Disagree	Strongly Disagree
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SCORING: The objective of the research was to study the attitude of Government and Private school teachers towards Continuous and Comprehensive Evaluation in schools. These attitudes were acquired from the responses of the subjects on a five point Likert Scale in the attitude scale. There were total of 40 questions and scoring was done for each item as per the formula given.

SAX5 + AX4 +UX3 + DX2 +SDX1 (FOR NEGATIVELY FRAMED ITEMS, MARKING WAS DONE IN REVERSE ORDER)

Then the item wise scores are to be transferred in the table to obtain different competences scores. Manual scoring is done conveniently. Next the frequency of scores is considered for measuring the attitude of Government and Private school teachers towards Continuous and Comprehensive Evaluation.

NORMS :

Attitude of Teachers towards Continuous and Comprehensive Evaluation

TABLE I

Range of Raw Score	Classification
401& above	Highly Positive
301-400	Moderately Positive
201-300	Neutral
101-200	Moderately Negative
100 & below	Highly Negative

6. ANALYSIS AND INTERPRETATION

The data and its interpretation related to three aspects of the study are as follows:

Objective 1: To Study Government School Teachers' Attitude towards Continuous and Comprehensive Evaluation as per CBSE Scheme.

Attitude of Government school teachers was moderately positive towards the concept of CCE. They agreed that it helps the learners to improve their achievement in scholastic and co-scholastic areas. They all agreed that not only book-worm students favored examination ridden system but low achievers were also in the favor of examination ridden system to get the exact percentage of marks in their performances. The attitude of maximum Government school teachers was neutral about the new CCE system and they all favored new CCE system as well as traditional system of evaluation equally.

They agreed that CCE eliminated the discrimination among students on the basis of marks obtained by them. They also favored that underachievers are more benefitted by CCE system and students are free from Private tuitions in the CCE system. A high percentage of Government school teachers had highly positive attitude towards the impact of CCE where a teacher can motivate the students to become a good human being instead of only getting good grades. They agreed that students have feared of examination as well as they do their class/home work honestly.

Maximum strength of Government school teachers agreed that teachers give grades only on the basis of their assumptions and not giving the chance to the students to prove themselves due to lack of facilities in Government schools. They also agreed that students have maximum time to explore their talents through different co-curricular activities. They all favored that all the time, teachers are patient and hardworking in organizing and facilitating the co-curricular activities for students. In spite of that, most of teachers had adopted this new CCE system.

Objective 2: To Study Private School Teachers' Attitude towards Continuous and Comprehensive Evaluation as per CBSE Scheme.

Attitude of Private school teachers was moderately positive towards the concept of CCE. They agreed that it helps the learners to improve their achievement in scholastic and co-scholastic areas. They all had neutral response about the statement that only book-worm student favored examination ridden system. They further said that examination ridden system was also the choice of other students so that they can get exact percentage of marks instead of conversion of marks into grades. The attitude of maximum Private school teachers was moderately positive towards the new CCE system and they all favored the Continuous and Comprehensive Evaluation System as compared to traditional system of evaluation.

Private school teachers had moderately positive attitude towards CCE which eliminates the discrimination among students on the basis of marks obtained by them. Most of Private school teachers had neutral attitude towards CCE in which underachievers are more benefitted by CCE system and students are free from Private tuitions in this CCE system. A high percentage of Private school teachers had highly positive attitude towards CCE system which helps the parents to know about the progress of their children timely in each semester of the class and also favored CCE system where a teacher can motivate the students to become a good human being instead of only getting good grades. A few percentages of Private school teachers had neutral attitude towards those students who don't have any fear of examination and they don't do their class/home work honestly.

Maximum Private School teachers' attitude was moderately positive towards teachers who think it is burden to organize different subject activities for students and is not the part of their teaching. They also had neutral response on assigning grades to students with partial behavior towards them. The neutral attitude of teachers showed that sometimes students don't /do show artificial behavior towards teachers, friends and parents to get good grades in their report cards. The attitude of teachers was moderately negative on the

professional growth of teachers due to increase of their manual work.

They also agreed that students have maximum time to explore their talents through different co-curricular activities. Maximum Private school teachers had moderately positive attitude about the teachers who are considerate and honest in assigning the grades to the students according to their abilities

and capacities and all the time, teachers are patient and hardworking in organizing and facilitating the co-curricular activities for students.

Objective 3: To Compare Government and Private School Teachers' Attitude towards Continuous and Comprehensive Evaluation as per CBSE Scheme.

TABLE II

Category	Name of Category	No. of Items	Compared Group	Average X	Average Mean	Standard Deviation	t-Test
SECTION – 1	Concept of Continuous and Comprehensive Evaluation	10	Government School	332.1	3.32	26.9	0.017
			Private School	337.8	3.38	22.7	
SECTION – 2	Impact of Continuous and Comprehensive Evaluation on Teachers	20	Government School	286.65	2.86	52.3	0.0185
			Private School	299.1	2.99	46.8	
SECTION – 3	Implementation of Continuous and Comprehensive Evaluation in the light of Tools and Techniques	10	Government School	308.2	3.08	60.2	0.0035
			Private School	331.8	3.32	57.8	

Analysis of Table

Degree of freedom (df) = $N_1 + N_2 - 2 = 100 + 100 - 2$

So, Degree of freedom (df) = 198

't' values with df 198

0.05 levels – 1.97 s units

0.01 levels – 2.60 s units

It was found that the table value of 't' with df 198 is 1.97 and 2.60 at 0.05 and 0.01 levels of significance.

In Section –I of the category, the calculated 't' value 0.017 is less than table values at both levels of significance. The null hypothesis is accepted at both levels.

It may be stated that there is no significant difference between Government and Private school teachers' attitude towards concept of Continuous and Comprehensive Evaluation.

In Section –II of the category, the calculated 't' value 0.0183 is less than table values at both levels of significance. The null hypothesis is accepted at both levels.

It may be stated that there is no significant difference between Government and Private school teachers' attitude towards impact of Continuous and Comprehensive Evaluation on Teachers.

In Section –III of the category, the calculated 't' value 0.0035 is less than table values at both levels of significance. The null hypothesis is accepted at both levels.

It may be stated that there is no significant difference between Government and Private school teachers' attitude towards implementation of Continuous and Comprehensive Evaluation in the light of tools and techniques.

Thus there is no significant difference between Government and Private school teachers' attitude towards Continuous and Comprehensive Evaluation as per CBSE scheme.

7. IMPLICATIONS OF CCE

- Child centered teaching and learning: Better learning takes place under friendly and supportive conditions. Students should study and learn due to love for learning

and not because of fear of examinations. It creates democratic environment in the class.

Here the student and teacher have equal participation in the teaching learning process.

This system is based on child psychology. This system encourages participatory teaching-learning process.

- **Fostering creativity:** Through a well-designed scheme of continuous and comprehensive evaluation, a student is able to perform according to his own interest and can show his creativity in areas of own interest.
- **Immediate feedback to students and teachers:** It exercises a great influence of the pupil's study habits and the teacher's method of instruction and help not only to measure educational achievement but also to improve it.
- **Holistic development of learners:** Continuous and comprehensive evaluation is the one which not only concerns the cognitive side but also covers all aspects of pupil's growth and development. Evaluation should concern itself with pupil's physical development, personality and character, social achievement, academic achievement and achievement in various types of skills. It covers the personality of the students incorporating the cognitive, affective and psychomotor aspects and not limited to a few selected aspects of personality.
- **Effective evaluation tools and techniques:** It is necessary to use variety of evaluation tools and technique. Evaluation is a process by which we can collect evidences for student progress. Portfolios, anecdotal records, checklists, rubrics for assessment are used. Diagnosis and remedial measures It helps in improving student's performance by identifying his/ her learning difficulties at regular time intervals right from the beginning of the academic session and employing suitable remedial measures for enhancing their learning performance.
- **Maximum level of achievement:** Assessment should be viewed as developmental which emphasized on the improvement of pupils rather than achievement. For slow learners it helps in achieving maximum level.
- **Assessment:** Teacher allows peer and self- assessment. It helps the students in self learning. CCE assess both product as well as process. It impacts the teaching and learning.
- **Marks to grade:** In this system, student's performance will be assessed using conventional numerical marking mode, and the same will be later converted into the grades on the basis of the predetermined marks. Grading system has changed the mindset of people; previously there were lot of pressure on students as well as on parents, to bring

good marks. This sometimes worked negatively for students and they lose their confidence level in studies. Introduction to grading system for exams, will take away fear factor from students and their parents. The grading of students would also take away the frightening judgmental quality of marks obtained in a test leading to a joyful stress free and learning environment in the school. Now student can participate freely in different activities in school because there is a less pressure of studies on them.

It considerably reduces the pressure from students and motivates them to bring good grades.

The main objective of continuous and comprehensive evaluation is quality education.

For developing quality education, teachers must be efficient in teaching as well as in assessment practices in and outside the class room. CCE has been fruitful in improving the evaluation skills of the teachers which is very important. The competence expected of them is be able to raise the standard of achievement in pupils by constant feedback, remediation and improvement of classroom instructional strategies based on the evaluation results. Moreover, comprehensive assessment of every aspect of changes in physical, emotional and intellectual spheres must be evaluated. This in turn results in the improvement of quality education. It is important to equip teachers with required skills and competencies of evaluation so that they will be able to integrate evaluation well with the teaching – learning process

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Public Expenditure and Economic Growth in India

Anita Sharma*

Abstract: *The purpose of this study is to investigate the relationship between public expenditure (current and capital) and the economic growth of India. The data for this paper covers a period 1978-2018 of the developing country India. This study has been conducted in order to analyze that whether the public expenditure have a positive impact on the economic growth of India or not. This research paper uses the SPSS software to estimate the regression equation. The paper ends with the conclusion that a high positive correlation exists between the public expenditure and the economic growth of the country and also the public expenditure have a positive impact on the economic growth of India.*

Keywords: *GDP, Public Expenditure, India*

1. INTRODUCTION

During nineteenth century the public expenditure was not given much emphasis as most of the Governments follow the laissez faire economic policies and their main concern was to maintain law and order within their territory and to also to defend their countries from outside aggression. They spend very less amount on public expenditure. But in twentieth century the amount of public expenditure have increased to a considerable amount in the whole world. This is one of the major reasons for becoming a topic of discussion among economists and measuring its impact on the economic development of the country. Public expenditure can be classified in many ways viz, Revenue and Capital Expenditure; Development and Non-development expenditure; Productive and Unproductive Expenditure; Transfer and Non-transfer Expenditure etc. Public expenditure is expenditure on Capital account and revenue account. Former is expenditure on creation of assets and it is developmental in nature. Whereas the later is expenditure on normal running of the system it includes the expenditure on salaries etc. This paper has classified the public expenditure as Revenue and Capital Expenditure. The main aim of this paper is to study the relationship between public expenditure (current and capital) and the economic growth of India. The studies which were conducted earlier were mostly based on studying the relationship of public expenditure on other countries like Pakistan, Nigeria, Latin America countries etc. This paper is written mainly to study the effect of public expenditure on economic growth on India. India is a developing country and this matter is of great importance in order to analyze that whether we are going on the right track

or not. The data for this paper covers a period 1978-2018 of the developing country India. This study has been conducted in order to analyze that whether the public expenditure have a positive impact on the economic growth of India or not. This research paper has been divided into four sections. The literature review is dealt in the first section. The second section briefed the methodology used in this paper and the empirical results are presented in the fourth section. Finally, conclusion has been written in last section.

2. LITERATURE REVIEW

Various studies, theoretical or empirical which have been conducted till date regarding the impact of public expenditure on economic growth gives varied results in terms of the correlation sign and the intensity as well.

The studies conducted by Ram (1986), Holmes and Hutton (1990) and Aschauer (1989) concluded a positive relationship between government expenditures and growth. In the Ram's model total government expenditure is disaggregated into expenditure on (physical) investment, consumption spending and human capital investment. The study was on 115 countries for a period of 1950-1980 using cross section and time series data. The study found that increased productive expenditure (physical investment) has a negative impact on growth but consumption expenditure relates positively with growth.

While the study conducted by Grier and Tullock (1989) finds that the increase in government expenditure hampers the economic growth of the country. Their study was based on the pooled regression on five-year averaged data in 113 countries to analyze the relationship between cross-country growth and various macroeconomic variables.

Barro had conducted a study in 1990 to study the relationship between productive public spending and economic growth. He had taken the data of 76 countries for the period 1970-1985 and concluded that there may be a possible relationship between share of government spending and GDP and the growth rate of real per capita GDP. In 1991, while studying the data of 98 countries for the period 1970-1985 he reported a negative relationship between share of government spending and the output growth rate. Also he found a positive but statistically insignificant relationship between public investment and output growth rate.

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In 1993, Easterly and Rebelo conducted a study on the sample of 100 countries and found an important role of capital expenditure with special significance of transportation and communication and the economic growth.

Taking a period of 20 years of 43 developing countries Devarajan et al. (1996) found a negative relationship between capital expenditure and per capita income and a positive relationship between current government expenditure and economic growth. It is also concluded in this study that excessive spending makes the productive expenditure unproductive.

Using the pooled time series and cross sectional data of seven countries in South Eastern Europe during the period 1995 to 2005, Alexiou, in 2009, suggested that on some occasions lower levels of GE would enhance economic growth, while on other occasions higher levels of government spending might be more desirable. His study had taken five variables i.e. government spending as a dependent variable on capital formation, development assistance, private investment and a proxy for trade-openness.

Tang's study in 2009 also stated co-integration between government expenditure on education and defense with the national income and no co integration between government spending on health and national.

Hamsaz in 2011 had explored the association between government expenditure and economic growth in Malaysia over the period 1970-2007. His study had taken 11 sectors of government spending and find out those only three sectors i.e. health, transport and public utilities have a positive and significant relationship with economic growth.

Among the twelve Asian developing countries taken under the study by Zamanian et al. (2012) for the period 1960-2009, only six countries affirms the cause and effect relationship between government expenditure and economic growth while the rest of the countries do not show this causality relationship

Chamorro-Narvaez (2012) studied the relationship of capital and current spending on the economic growth for 12 Latin America countries over the period 1975 – 2000 using annual data. His findings reveal that there exists no impact of these two components of expenditure over the per capita economic growth rate. The study emphasized that the reason for this is the poor governance and corruption present in the countries.

Shahid et al. (2013) made an attempt to examine the role of sub categories of government expenditures in Pakistan for the period of 1972- 2009. Using ARDL model they showed that the coefficient of development expenditure positively affects economic growth. It also supports the public capital

hypothesis that states that public and private investments are complements to each other. The results also showed that current expenditure does not contribute to economic growth.

While in the study conducted by D'Agostino et al. (2016) based on the assumption that an increase in government spending might be a cause of increased corruption in the country. In other words the corruption increase is the indirect effect of GDP growth. The study revealed that the government expenditure results in the enhancement of economic growth while high amount of government spending on military and non capital government spending reduces the GDP.

In June 2017, Osuji, E. E.; Ehirim, N. C.; Ukoha, I. I.; Anyanwu, U. G. examined the effect of government expenditure on economic growth and development in Nigeria for the period of 1990–2012 using Ordinary Least Square (OLS) multiple regression technique. Time series data for twenty-two years were sourced from secondary data such as the CBN statistical bulletin and other relevant publications using the desk survey method. Gross Domestic Product, proxy for economic growth and development was adopted as the dependent variable while Total Recurrent Expenditure and Total Capital Expenditure constitute the independent variables. The conclusion of their study showed a Positive impact of Government Expenditure on Education, Health, General Administration, and Road Construction on the economic growth but an inverse relationship between expenditure on Agriculture and GDP.

Using an autoregressive-distributed lag (ARDL) model Dan Lupu, Mihai Bogdan Petrisor, Ana Bercu & Mihaela Tofan study the correlation between real GDP growth and 10 different categories of public expenditure. Their study conducted in 2018 on 10 selected Central and Eastern European countries for the period 1995-2015 show that expenditures on education and health care have a positive impact on the economy, while expenditures on defense, economic affairs, general public services, and social welfare have a negative impact.

These studies revealed a possible relationship between government expenditure and economic growth sometimes positive and sometimes negative depending upon the socio economic development of the country. It also reveals that to make expenditure on certain particular areas will give positive relationship between the government expenditure and economic growth while it will be negative for other heads of expenditure.

3. DATA AND RESEARCH METHODOLOGY

The empirical analysis uses the data of public expenditures (current and capital) and the GDP growth rate covering the period from 1979 to 2019 forty years. The explanatory

variables are, Gross Domestic Product (GDP) which is taken as the proxy for economic growth of the country and is considered as the dependent variables while the Share of total public expenditures (current and capital) i.e. revenue expenditure is taken as the independent variable. Under Capital expenditure only the expenditure on loans and advances and capital outlay is taken for the study. The time series data of forty years has been sourced for this paper through secondary source Reserve Bank of India-Handbook of Statistics on Indian Economy 2017-18. The data has been analyzed using regression model of the SPSS software.

Regression Analysis Formula

$$Y = a + b X$$

Where, Y= GDP, X= Public Expenditures (current and capital)

The Null hypothesis used is that there is no relationship between the Public Expenditure and GDP. The alternate hypothesis is that there is a relationship between the Public Expenditure and GDP.

4. EMPIRICAL RESULTS

The data has been analyzed using regression model of the SPSS software through which the following output has been received:

TABLE1: Correlations

		GDP	PE
Pearson Correlation	GDP	1.000	.997
	PE	.997	1.000
Sig.(1-tailed)	GDP		.000
	PE	.000	
N	GDP	38	38
	PE	38	38

The results in Table 1 indicate that the correlation between Public Expenditure and GDP is .997 which shows that there is a strong positive correlation between Public Expenditure and GDP. The p value for the correlation coefficient is .000 which shows that the correlation coefficient between Public Expenditure and GDP is high and statistically significant.

<i>Variables Entered/Removed^b</i>			
Model		Variables Entered	Variables Removed
dimension0	1	Expenditure ^a	.
a. All requested variables entered.			
b. Dependent Variable: GDP			

TABLE 2: Model Summary

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. Change
dimension0	1	.997 ^a	.995	.994	3508.008	.995	6614.343	1	36	.000
a. Predictors: (Constant), Expenditure										

ANOVA ^b						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.140E10	1	8.140E10	6614.343	.000 ^a
	Residual	4.430E8	36	1.231E7		
	Total	8.184E10	37			
a. Predictors: (Constant), Expenditure						
b. Dependent Variable: GDP						

TABLE 3: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2337.414	761.005		-3.071	.004
	Expenditure	8.199	.101	.997	81.329	.000

a. Dependent Variable: GDP

In Table2, the value of r is also .997 which shows that the goodness of fitting the linear equation is high. R square value shows that the 99percent of variations in GDP is explained by Public Expenditure and is a better fit of trend line. Thus rejecting the null hypothesis and accepting the alternate hypothesis that there exists a strong relationship between the Public Expenditure and GDP.

On analyzing the data through advance excel also the same out been received. The output of advance excel is as follows:

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.99729							
R Square	0.994587							
Adjusted R Square	0.994436							
Standard Error	3508.009							
Observations	38							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	8.14E+10	8.14E+10	6614.338	2.11E-42			
Residual	36	4.43E+08	12306129					
Total	37	8.18E+10						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-2337.42	761.0054	-3.07148	0.004041	-3880.81	-794.025	-3880.81	-794.0249264
X Variable 1	8.19873	0.10081	81.32858	2.11E-42	7.994278	8.403182	7.994278	8.403182486

Now our equation will become
 $GDP = -2337.42 + 8.19873 \text{ Public Expenditure}$

This shows that if the public expenditure is increased by 1 unit then it will result in 8.19 units increase in GDP. It shows that the public expenditure have a positive impact on the economic growth of India

5. CONCLUSIONS

This paper investigated the relationship between public expenditure (current and capital) and the economic growth of India.

The empirical analysis uses the data of public expenditures (current and capital) and the GDP growth rate from 1979 to 2019 covering a period of forty years. The regression model of SPSS software is used for the purpose of the study. The Null hypothesis used is that there is no relationship between the Public Expenditure and GDP. The alternate hypothesis is that there is a relationship between the Public Expenditure and GDP. Our empirical result shows that a high strong positive relationship exists between the public expenditures (current and capital) and the GDP growth rate. The public expenditure has a positive impact on the economic growth of India. If the country increases the public expenditure it will surely results

in an increase in the GDP which means the economic growth of the country.

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Identify the Proportion of Benefitted Users from Eazy_Buzy Life App Based on Survey

Neetu Anand*, Dhruvi Goyal**

Abstract: Lives of working women are multifaceted. They need to be assisted for several tasks in their day to day activities. Keeping this in mind, an android based mobile app was created with various features viz. health management, time and stress management, work management, clues about nearest shopping centers, booking cab, food recipes, finding nearest doctor and many more functionalities. Based on the app, the survey form on various key parameters to identify the key users of the app was created and filled by working women, which has been preprocessed first and then after applying clustering, the resultant data is examined and studied.

1. INTRODUCTION

One of the major issues of concern for working women is balancing family related issue with their office work. No matter what the designation and position of women in the office or industry, Indian women have to look after their family along with official work. [1,2] They are treated as a family manager who is going to manage all the work of home like cooking, cleaning and other associated matters of her home and family. For every successful woman there arise needs to prioritize the issues in different sectors viz. professional and personal.

The following are the objective of the research work:

- To identify the challenging areas of working woman.
- Building the app for the working women with all the utilities required.
- To create the survey form based on the app to identify the percentage of benefitted users of app.
- Identify the percentage of working women who are facing glitches in managing time in their personal as well as professional lives.
- To preprocess the collected data and analyze the result obtained from data clustering.

2. INNOVATION ASPECT IN THE APP

- Smartphones can't be imagined without mobile apps[3] installed on it, as mobile apps are latest buzz in the field of technology. As per the latest statistics, over 80% of market is owned by android apps, as android is an open source and hence, more innovative, attractive and interactive apps can be built for android platform, or in short, it is an innovative step towards mobile technology.
- In our app, we ensured innovation by identifying the target users (working women) and devices that would support the app.
- Our app designed is greatly interactive, which is a step ahead in terms of innovation. With a colorful design and various interactive tools placed within the app, it makes life of working women quite easy.

3. INVENTIVE FEATURES EMBEDDED IN OUR APP

- The app can act as a bodyguard for working women to feel secure and safe.
- Popular recipes are another feature that saves the time of the working women.
- Prioritized task, making shopping easy by locating different stores.
- Providing assistance in health and stress issues, as well as connecting them live with doctors and psychiatrist.

4. ADVANTAGE OF APP

Our system includes all the characteristics to rectify the hindrances faced by working women in current scenario. It aims to reduce the time and money wastage by providing an integrated platform for all the modules [4,5]. The various advantages of the current system are stated as follows:

- Overcomes various glitches faced by working women in their daily's hectic lives.
- Helps in managing lots of work.

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- Interactive and easy to use GUI.
- Access to large number of features in just one or two clicks.
- Efficient utilization of very little available time.
- Easy to operate and maintain.

5. DATA COLLECTION AND ANALYSIS

a) Data Collection and Preprocessing

A survey was conducted amongst the Working Women of different age groups belonging to various states of India like Delhi, Karnataka, Chennai, Tamil Nadu, Uttar Pradesh, Kerala, etc. It consisted of total 22 questions. A total of 269 responses were gathered using the Google Forms. The collected data was stored in the spreadsheet in “.csv” format, so as to perform data mining and analysis on it.

Data preprocessing involves giving one-word variable name to each question so as to reference each field with its specific name in data mining process [6]. It also includes converting all the nominal values of the attributes to numeric values (between 0 and 1), so as to ease the task of data mining process.

From the gathered data, the relevant fields were selected by the feature selection process and gathered in 2 different tables, so as to perform data mining to attain the objectives, i.e., to identify the percentage of women who would be greatly benefitted by our app, and also to infer the percentage of users who face much difficulty in managing time. The detailed content and purpose of the tables are as stated below:

- i Survey_General : It contains totally 11 fields as shown in table 1, from all the sectors in which working women face much impediments. Data mining is performed on it in order to find out the percentage of working women who will be greatly benefited by our app in order to make their daily miserable lives more abridged.
- ii Survey_Time : It contains 5 fields related to time management, as shown in table 2. Data mining on this table is performed in order to identify the total percentage of women who are facing difficulty in managing their time between their professional and personal life on daily basis.

b) Data Mining through Clustering

Weka is a data mining open source tool to carry out various task like clustering, classification, association mining correlation and regression etc. Machine learning algorithm can also be easily developed and executed in Weka. We have used Weka tool to perform clustering on the gathered survey

responses, so as to identify the percentage of working women who will be extremely benefited by our app.

Cluster is defined as a group of similar objects, all the objects of same group are related to each other in some manner viz. Characteristic. [7] The objects of one cluster are homogeneous in their group and are heterogeneous in another group. Clustering is an unsupervised learning process and not required the classes to be known in advance. It used the concept of learning by inspection or examination rather than by already stated examples.

General description about the clustering algorithm[8]:

- 1) Attributes should be normalized by considering highest and lowest values.
- 2) Assume the number of cluster and separate test data and actual data.
- 3) Calculate the distance of each sampled data from the cluster center.
- 4) A set of data is assigned to any one of the cluster with which it is less far.
- 5) The average of the entire columns known as centroid is calculated.
- 6) The distance of each sampled data can be calculated with the centroid. If its position fixed in the cluster and it will not shift to any other cluster, then its fine otherwise go back to step 3 and do all the process again up to step 6.

Clustering is an unsupervised learning method. K - Means is the simplest one among many available methods for clustering. Its procedure is very straightforward and effortless to categorize the data to some assumed set of K clusters. The basic theory behind this algorithm is to define K centers to adjust K clusters. K centers are located or placed in an intelligent manner so as it accommodate various data and produce separate results. For best result all the centers are placed far apart. Each data item are assigned to a nearest cluster or clusters with least distances.

Simple K-Means algorithm technique of data clustering has been performed on both the tables as it was observed to be the most efficient technique when compared with other data clustering algorithms in terms of highest data accuracy, lower error rate and least time consumed while running the algorithm.

c) Experimental Results

Data clustering technique has been performed on the tables, Survey_General and Survey_Time, derived from the data gathered from various working women across India. Data clustering has been adopted so as to perform unsupervised learning data mining technique.

The data clustering results of Simple K-Means clustering on Survey_General table is as follows in Figure 1:

```
kMeans
=====
Number of iterations: 8
Within cluster sum of squared errors: 205.46715809926218

Initial starting points (random):
Cluster 0: 0,0,0.333,0,0,0,0.667,0.667,0.5,0.5,1,0
Cluster 1: 0,0.333,0.333,0,0.667,0.667,0.333,0.5,0.75,0.667,0

Missing values globally replaced with mean/mode

Final cluster centroids:
Attribute          Full Data      Cluster#
                    (176.0)      (71.0)      | (105.0)
-----
difficulty_time_mgmt 0.5966        0          1
family_time          0.4167        0.3426     0.4667
uptodate_current_affairs 0.464        0.4178     0.4953
difficulty_nearby_places 0.4545        0.2676     0.581
difficulty_remember_events 0.3939        0.2817     0.4698
difficulty_cooking    0.4583        0.3238     0.5492
difficulty_online_shop 0.3314        0.2534     0.3841
health_issues        0.4432        0.3662     0.4952
health_issues_frequency 0.4659        0.4296     0.4905
security_concern     0.5265        0.4976     0.546
helpline_numbers    0.4545        0.4085     0.4857
```

Fig. 1. Clustering result on Survey General Table

Here, Cluster 1 (60%) specifies the users who are highly in need of our app and will be using our app to manage their daily's frenzied life in a modest way and Cluster 0 (40%) implies the users who will be using less number of features of our app in order to manage their lives.

From the results of the clustering, we can infer that 60% of working women are facing hindrance in managing their day to day problems and hence, will be highly benefited by our application.

The screenshot of data clustering results of Simple K-Means clustering on Survey_Time table done in Weka is shown in figure 2:

```
kMeans
=====
Number of iterations: 3
Within cluster sum of squared errors: 133.83171895829395

Initial starting points (random):
Cluster 0: 0,0,1,0,0
Cluster 1: 1,0.667,1,0.333,0

Missing values globally replaced with mean/mode

Final cluster centroids:
Attribute          Full Data      Cluster#
                    (267.0)      (104.0)      | (163.0)
-----
difficulty_time_mgmt 0.6105        0          1
family_time          0.407         0.3364     0.452
domestic_chores_time 0.6618        0.6058     0.6975
difficulty_remember_events 0.3995        0.3269     0.4458
activities_workplace 0.4831        0.4327     0.5153
```

Fig. 2. Clustering result of Survey time table

Here, Cluster 1 (61%) implies the users who are facing much difficulty in managing time in their day to day lives, whereas Cluster 0 (39%) indicates the users who are facing less difficulty in time management.

From the results of the clustering, we can infer that 61% of working women are facing much difficulty in managing their day to day time for their personal as well as professional lives.

6. CONCLUSION AND FUTURE WORK

In this research work, we have presented numerous impediments faced by today's working women and gave the advantage of using android based application that rectifies all the issues of the extant systems. It is an amalgamated platform, with an easy to use interface that enables each individual to use it in an utmost convenient and competent manner.

- With the help of data mining and analysis techniques, we inferred that our app will contribute in enhancing daily lives of atleast 63% of working women, by resolving various snags faced by them in this real world.
- By applying K-means clustering algorithm, we also concluded that 61% of working women are facing much difficulty in managing their day to day time for their personal as well as professional lives.

In future, this work would be extended by taking the following things into consideration:

- a) Stress level of the user will be calculated based on AI techniques and depending upon it, various suggestions and tips will be provided to the user.
- b) A discussion forum will be included in the application so as to provide a common platform for working women from different corners to interact and get each other's problems solved.
- c) The survey will be extended to get still more responses and perform different data mining techniques, so as to study the behaviour of several working women, as well as find still more difficulties faced by them in their daily lives and resolve them in our application.

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TABLE 1: Survey General

S. No	Question	Variable	Nominal Value	Numeric Value
1.	Do you find it difficult to manage time between your personal and professional life?	difficulty_time_mgmt	Yes	1
			No	0
2.	Does after working hours, you get enough time for your family?	family_time	Not at all	1
			Sometimes	0.667
			Mostly	0.333
			Always	0
3.	Are you up-to-date in terms of current affairs going on?	uptodate_current_affairs	Not at all	1
			Sometimes	0.667
			Mostly	0.333
			Always	0
4.	Is it difficult for you to find nearby places like banks, hospitals, parks, beauty salon, etc.?	difficulty_nearby_places	Yes	1
			No	0
5.	Do you find it difficult to remember all your day to day important events like meetings, birthdays, PTMs, etc.?	difficulty_remember_events	Always	1
			Mostly	0.667
			Sometimes	0.333
			Not at all	0
6.	Do you find it difficult to cook nutritious quick and easy recipes?	difficulty_cooking	Always	1
			Mostly	0.667
			Sometimes	0.333
			Not at all	0
7.	Do you find it difficult to book cabs or shop online?	difficulty_online_shop	Always	1
			Mostly	0.667
			Sometimes	0.333
			Not at all	0
8.	Do you suffer from any health complications like mood swings,	health_issues	Yes	1
			Can’t say	0.5

	depression, concentration problems due to problems at workplace?		No	0
9.	How often do you face health related problems?	health_issues_frequency	Most frequently	1
			Frequently	0.75
			Average	0.5
			Less Frequently	0.25
			Not at all	0
10.	Are you concerned about the security when you are out of home?	security_concern	Always	1
			Mostly	0.667
			Sometimes	0.333
			Not at all	0
11.	Do you remember women helpline numbers or is it saved in your cellphones?	helpline_numbers	No	1
			Yes	0

TABLE 2: Survey Time

S. No	Question	Variable	Nominal Value	Numeric Value
1.	Do you find it difficult to manage time between your personal and professional life?	difficulty_time_mgmt	Yes	1
			No	0
2.	Does after working hours, you get enough time for your family?	family_time	Not at all	1
			Sometimes	0.667
			Mostly	0.333
			Always	0
3.	How much time do you spend on domestic activities?	domestic_chores_time	Less than 2 hours	1
			2-4 hours	0.667
			4-6 hours	0.333
			More than 6 hours	0
4.	Do you find it difficult to remember all your day to day important events like meetings, birthdays, PTMs, etc.?	difficulty_remember_events	Always	1
			Mostly	0.667
			Sometimes	0.333
			Not at all	0
5.	Are you involved in any kind of activities in the workplace, community and society?	activities_workplace	No	1
			Yes	0



A Case Study on Increasing of Banking Frauds in India

Mamta Shah*

Abstract: *Indian Banking Industry has witnessed tremendous changes since Independence of country. Although it is regulated by Acts like Banking Regulation Act, RBI Act, SBI Act, and Insolvency Act, even then the sector faces many troubles due to various frauds and unethical practices on the part of customers and employees of the banks. The present study is based on this sensible issue that despite many regulations, industry is facing substantial losses due to unethical conduct of people, where public money is involved. The customer money is misused by exploiting different flaws and loopholes in our financial system. It is an attempt to bring light on the various issues which create mounting of NPAs and failures on part of banking industry.*

Keywords: *Lending, Banking, NPA, Stressed loan, frauds, regulations etc.*

1. INTRODUCTION

Indian Banking Industry is facing fraud related issues for the past few years. Indian Banks, especially Public Sector banks are suffering from mounting losses and rise in NPAs on account of increased level of number of frauds. In most of the cases there is a involvement of top level management creating halt on banking activities. Loan sanctioning for new projects, as happened in recent case of Nirav Modi, have brought sufferings for the industry. Many of the top executives have been charged for alleged corruption and deceitful intentions in granting loans. This creates a question mark on corporate governance and ethics in the industry. In fact, the menace of rising NPA is a global crisis that is responsible for slowdown in industry.

The strength of financial system of any economy can be judged by its level of production and consumption. The living standard and status of people can be judged with soundness of financial system; but if financial system is packed with frauds and high degree of NPAs, it should be a cause of worry for any nation. The Indian economy, in fact, is suffering for the past many years from these issues.

If the financial system or banking system is strengthened, it will be reflected in GDP growth and living standard of the people. But if the system is a failure, then it reflects

Inefficiency of the country's governance, and causes distress among various stakeholders. The number of frauds in the year 2016-17 was more than 3870, involving an insane amount of 17,750 crores including both commercial and private banks. If we Compare this with 2013-17, we seen that the number of frauds was almost doubled as a total of 17,501 frauds were reported in this period. Out of these, 2,084 had insider involvement.

Bank frauds are not only related to Advances or loan related activities, but also to Deposits and Services. In short frauds are divided into three parts- Deposit related, Advance Related and Service Related. The various reasons of increasing frauds in Banking and Financial services are increasing use of technology. On one side, the technology is giving many comforts and benefits like paperless transactions, cashless transitions and Direct home services, on the other hand however, it is also increasing risks such as spread of viruses, occurrence of financial frauds by various means like identity theft, phishing, card skimming. Fraudsters are employing newer and diverse means like, spyware, social engineering, Trojans, website cloning and cyber stalking and so on for their illegal activities.

Objective of the study

1. To determine reason of various types of frauds in Banking.
2. To check different forms of fraud and their impact on different stakeholders.
3. To find out various measures to stop these fraud, so that to protect different stakeholders for that.

2. RISK FACTORS IN FINANCIAL SECTOR

- Financial sector in evolved with following types of risk factors for frauds

1. Cybercrime- Almost all banks, offer online and mobile banking services. Debit card, credit cards and other payment methods are used for banking transactions.

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ATM's machines and other electronic channels used for these payments is the main target of cyber attacks.

2. Money laundering- Money laundering activities increase the chance of terrorist funding. Rigorous Regulatory requirements and control and media scrutiny by banks and financial institutions is necessary to control frauds.
3. Black Money- Cyber crime and financial frauds lead to financial instability in the country. India is one of the top positions in the world for increasing Black money.
4. Loan loss- The risk of increasing NPA and Bad debts in India in increased manifold, due to lack of appropriate methods of monitoring of loans and not by proper due diligence.
5. Credit Growth- Increasing rate of frauds also affects credit growth of any country. The increase in frauds affects the faith on financial sector, which eventually effects the credit growth of the economy.

3. STATISTICAL REPORT

Estimated case of banking fraud is increasing year by year, as shown in the table

Year	No. of cases (Cyber Crime)	No. of Cases (ATM, Debit Card)
2015-16	9622	1159
2016-17	11522	1372
2018-18	12317	2059

As per RBI data, during the period 2013-2017, 17,504 bank frauds reported. Around 5,200 officials were held for fraud in Public sector banks during period 2015-2017. The study shows that top bank in the list of frauds by bank officials were State Bank of India (SBI), Indian Overseas Bank (IOB) and Central Bank reporting 1538, 449 and 406 cases resp. One of the popular public sector bank that is Punjab National bank is also facing fraud committed by billionaire jeweler Nirav Modi. Most of the cases in case of fraud have the insider involvement. If we see data for the period, 2013-2017, out of 3870 case, in 450 cases had insider involvements. Central Bank that is RBI has been issuing circulars to banks about how effectively report cases and also put in place mechanism to prevent them.



Cases Of Bank Fraud

- In year 2014 Rs.139 crore fraud from Kolkata based industrialist Bipin Vohra and others were booked by the CBI for allegedly cheating Central Bank of India by obtaining the loan with forged documents
- In the year 2011 Rs, 150 crore from Executives of Bank of Maharashtra, Oriental Bank of Commerce and IDBI created about 10,000 fictitious accounts and transferred loans to these accounts, a CBI investigation had found.
- In the year 2015, Rs, 2 crore fraud booked by CBI booked former deputy general manager of Central Bank of India and three directors of Jain Infraprojects Ltd — MK Jain, Rekha Jain and Sunil Kumar Dangi, for allegedly defrauding the bank.
- In the year 2017, CBI arrested the promoters of Abhijeet Group — Manoj Jayaswal and Abhishek Jayaswal — and TL Pai, a former DGM of Canara Bank, for allegedly defrauding Canara and Vijaya Banks. For Rs. 290 crore.

- In the year 2014, Officials of Ahmedabad-based Electrotherm India allegedly cheated Central Bank of India in connivance with bank employees. CBI booked the company directors in the case for Rs. 437 crore.
 - In the year 2017, CBI arrested Padmakar Deshpande, a Bank of Maharashtra officer from Pune, along with the director of Siddhi Vinayak Logistics Limited, a private logistics company from Surat, in connection with an alleged Rs 836-crore fraud case.
 - In the year 2016, CBI booked four people including Chief Manager of Syndicate Bank in an alleged scam in which the accused used fake cheques, letters of credit and LIC policies to withdraw money of Rs. 1000 crore.
 - In the Year 2015, Rs. 6000 crore fraud was related to money laundering/fund siphoning scam. Scammers exploited loopholes in remittance rules to bring back illegal money parked abroad disguised as export revenues. They also transferred money abroad claiming that to be advance payment to overseas vendors. Employees of various banks including Oriental Bank of Commerce and Bank of Baroda were allegedly party to the scam
 - In the year 2014, Rs. 8000 crore Dubbed the bribe-for-loan scam, CBI found a well-oiled nexus between top bank officials and companies. Bank chiefs were bribed by companies wanting loans. Ex-chairman and MD of Syndicate Bank, SK Jain was among those arrested.
 - In the year 2017, one of the most publicised alleged frauds of rs. 9000 crores in India's banking history, liquor baron Vijay Mallya was accused of defrauding a consortium of lenders. He is currently in the UK and Indian authorities are trying to extradite him to India.
 - In the year 2018. Rs. 12000 crores fraud of Kolkata-based gold trader Nilesh Parekh was arrested by the Directorate of Revenue Intelligence sleuths for allegedly siphoning off 1,700 kg of imported duty-free gold and defrauding 25 banks. He was earlier arrested by CBI for allegedly siphoning off bank loans worth Rs 2,672 crore through hawala channels to dummy companies in Singapore, Dubai and Hong Kong
 - One of the recent case of Diamond trader Nirav Modi and his uncle Mehul Choksi in the year 2018 for Rs. 14,000 crore, were accused of defrauding Punjab National Bank in one of the biggest financial frauds in India. Both accused fled India before they could be arrested.
- due to lack of knowledge/ awareness of procedure and systems.
2. The other reason of fraud is Non adherence of KYC guidelines. During peak season, sometimes banks officials open accounts of customers, without completing all KYC norms, due to pressure and carelessness. Fraudster uses this benefit and opens their account, deposit forged cheques and withdraw the amount.
 3. To achieve business target, staff of banks use unethical ways. Lack of proper audit and inspection and suitable system, fraudulent activities increase in the system.
 4. Lack of proper internal control system, increase the chances of fraud, poor control environment, improper documentation and inadequate accounting system increase chances of fraud.
 5. Use of new technology and financial software are also one of the causes, lack of proper data security in new technology increase chances of theft, cyber crime and other online frauds.
 6. Use of electronic channels like online banking, Debit card, credit card, ATM, NEFT, Internet banking and Mobile banking provides new ways to fraudsters.
 7. Inexperience from the side of staff and lack of awareness from the side of customer also create fraudulent activities in the financial and banking system.

4. CONCLUSION

Study reveals that there are many reasons of fraud primarily related to poor regulatory system, carelessness of employees, lack of proper supervision by top management, improper use of technology, lack of awareness of customer and employees and poor coordination. To overcome these issues Banks should constantly monitor the system and regularly review and check transactions, which may cause online fraud. With increasing usage of e-banking and internet & mobile banking, the risk of fraud is increasing. To address this issue, there is a need to educate customers and create awareness. It is high time that we make more stringent laws to curb the growing menace of corruption among the banking officials. The foremost challenge for bankers is to secure banks and customers from internet related crimes. Banking operations such as Inter branch transactions, Loans, Deposits and other online transactions should be highly secured. Legal requirements and procedural control should also be adequate to deal with that. Programmerelated to awareness and education to bank staff and customers should be organized from time to time to save the nation from these frauds, which

Causes of fraud in banking Sector-

1. First and foremost reason of frauds in case of banking sector is direct and indirect fault of their own officials. The fault could be intentional manipulations of rules and regulations for financial gains or could be unintentional

have the potential to create a question mark on the reputation of our economy.

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A Study of Various Big Data Emerging Technologies

Harjender Singh*

Abstract: Big data is a new driver of the world economic and societal changes. The world's data collection is reaching a tipping point for major technological changes that can bring new ways in decision making, managing our health, cities, finance and education. While the data complexities are increasing including data's volume, variety, velocity and veracity, the real impact hinges on our ability to uncover the 'value' in the data through Big Data Analytics technologies. Big Data Analytics poses a grand challenge on the design of highly scalable algorithms and systems to integrate the data and uncover large hidden values from datasets that are diverse, complex, and of a massive scale. In this paper, we explain the concept, characteristics & need of Big Data & different offerings available in the market to explore unstructured large data. Our analysis illustrates that the Big Data analytics is a fast-growing, influential practice and a key enabler for the social business. Analytics companies develop the ability to support their decisions through analytic reasoning using a variety of statistical and mathematical techniques.

Keywords: Deep Learning, Business Intelligence, Business Analytic, Hadoop, Cluster, NoSQL Database

Big data: The big data refers to huge volume of data which cannot be stored and processed using the traditional approach within the given time frame. Big data is a term that describe the large volume of data both structured and unstructured- that inundates a business on a day to day basis. But its not the amount of data that's important. It's what organizations do with the data that matters. Big data can be analyzed for insights that lead to better decisions and strategic business moves.

How huge this data need to be:

- Analyst predicts that by 2020, there will be 5200GB of data on every person in the world.
- On average, people send about 500 million tweets per day.
- The average U.S. customer uses 1.8 gb of data per month on his or her cell phone plan.
- Walmart processes one million customer transactions per hour.
- Amazon sells 600 items / second.
- On average each person who uses email receives 88 emails per day and send 34.

- That adds up to more than 200 billion emails each day.
- Master card processes 74 billion transactions per year.
- Commercial airlines make about 5800 flights per day.

Characterization of Big Data:

1. **Volume:** organizations collect data from a variety of sources including business transactions, social media and information from sensor or machine to machine data. In the past, storing it would've been a problem but new technologies such as hadoop have eased the burdens. By 2020 accumulated digital universe of data will grow from 4.4 zettabytes today to around 44 zettabytes or 44 trillion gigabytes.
2. **Variety:** Data comes in all types of formats- from structured, numeric data in traditional databases to unstructured text documents, email, video, audio, stock ficker and financial transactions. Different kinds of data is being generated from various sources like audio, video, PNG, Jfiles, emails, text files, you tube etc, these data can be structured, semi structured and unstructured. The structured data can be arranged in a proper schema i.e. it should be arrange in rows and columns or tabular format. In semi structured the schema is not defined properly.in un structured file we have log file, audio, video and png files.
3. **Velocity:** Data is being generated at an alarming rate. In every minutes 10000 tweets are generated. In FB 69500 status updated and 11millions messages generated in every minutes. Around 698445 Google searches in every minutes. Around 168000,000+ emails generated that is around 1820 TB data created. In every 60 second more than 217+ new mobile users added i.e. data streams in at an unprecedented speed and must be dealt with in a timely manner. RFID tags, sensors and smart metering are driving the need to deal with torrents of data in near future.
4. **Value:** Mechanism to bring the correct meaning out of the data. i.e. we can extract the meaningful information from the huge stored data.
5. **Veracity:** It is the degree to which data is accurate, precise and trusted. Some examples are:

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- **Data Lineage:** An organization gets data from hundred of sources. It discover that one of the sources is extremely inaccurate but lacks the data lineage information to identify where the data has been stored in various databases.
- **Bugs:** A software bug causes data to be calculated or transformed incorrectly.
- **Information Security:** An organization's data is changed by an advanced persistent threat.
- **Human Error:** A customer enters their phone number incorrectly.

Types of Big Data:

Sensors: Data streamed by sensors such as video, camera or GPS. Many types of sensors have become very cheap which can be used in our day to day life. These sensors plays a vital role in the growth of big data in coming years.

- **Machine Data:** The data which can be produced by machines such as commands, calculations and information streaming of any automation system.
- **Scientific and Medical:** The data produced by scientific instruments and medical equipments like weather forecasting system and satellite.
- **Communications:** communications through emails, and other social networking sites.
- **Knowledge:** knowledge acquired through various blogs and other documentation.
- **User Interface:** User interface such as social media apps can produce large stream of user input data.
- **Transaction:** Commercial transactions such as using various ecommerce purchasing or using stock market.
- **Derived Data:** Data calculated or interpreted from other data.

Eg. Face book, you tube, twitter google+ and linkden. They can produce huge amount of data.

Why is big data Important:

The importance of big data doesn't revolve around how much data you have, but you do with it. You can take data from any source and analyze it to find answer that enable:

1. Cost reduction
2. Time reduction
3. New product development and offerings

4. Smart decision making

A. Applications:

Understanding and Targeting Customers: this is one of the biggest and publicized areas of big data use today. Here big data is used to better understand customers and their behaviors and preferences. Companies are keen to expand their traditional data sets with social media data, browser logs as well as text analytics and sensor data to get a more complete picture of their customers.

B. Understanding and Optimizing Business Processes:

Big data is also increasingly used to optimize business processes. Retailers are able to optimize their stock based on predictions generated from social media data, web search trends and weather forecast. One particular business process that is seeing a lot of big data analytics is supply chain or delivery route optimization. Here geographic positioning and radio frequency identification sensors are used to track goods or delivery vehicles and optimize routes by integrating live traffic data.

C. Personal Quantification and Performance Optimization:

Big data is not just for companies and governments but also for all of us. We can now benefit from the data generated from wearable devices such as smart watches or smart bracelets. Take the up hand from Jawbone as an example: the armband collects data on our calorie consumption, activity levels and our sleep patterns. While it gives individuals rich insights the real value is in analyzing the collective data.

D. Improving healthcare and public health:

the computing power of big data analytics enables us to decode entire DNA strings in minutes and will allow us to find new cures and better understanding and predict disease patterns. Just think of what happens when all the individuals' data from smart watches and wearable devices can be used to apply it to millions of people and their various diseases. The clinical trials of the future won't be limited by small samples sizes but could potentially include everyone.

E. Improving sports performance.

F. Improving science and performance.

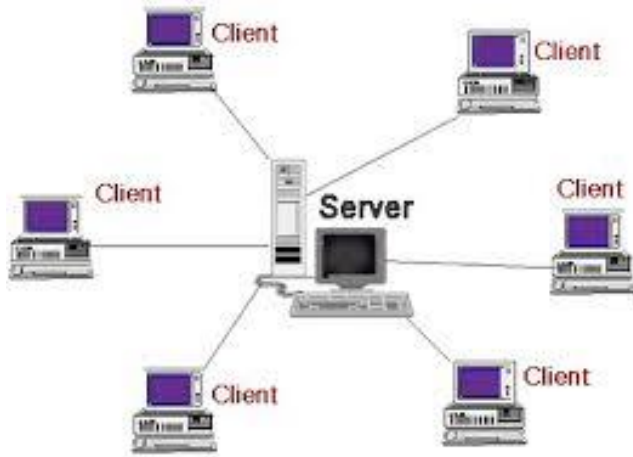
G. Optimizing machine and device performance.

H. Improving security and law enforcement.

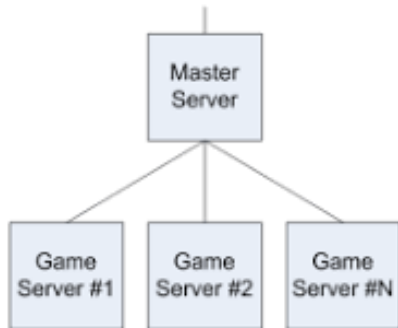
I. Improving and optimizing cities and countries.

Architecture :

Traditional data is processed with client server architecture.



Big Data is processed with Master Slave architecture.



Main component of Big Data:

- HDFS (Digital Data)
- MR (Map Reduce –write business logic to process (written in core java)
- SQOOP (SQL+HADOOP: can export or import SQL data in hadoop or vice versa).
- HIVE (It is a data ware house)
- OOZIE (workflow)
- FLUME (contnous streaming data like twitter, facebook etc)
- PIG (predefined component used for processing like MAPReduce)

Where is big data trend going:

Gartner says Big data is the new oil. Big data market is growing 7% more than IT companies. IBM says big data is not just a technology but also considered a business strategy. Analytics is poised to become a USD \$203 billion industry by 2020, becoming one of the most fastest growing industries forever. So here we can enhance our knowledge and skills in one of the fastest growing sectors with great learning. These are the some big data analytics

- **Internet of Things (IOT):** around 20.8 billion devices are connected by 2020 through IOT.
- **Artificial Intelligence (AI):** by 2020 85% customers will interact with AI instead of human.
- **Augmented and Virtual Reality:** An estimated 64.8 million AR devices will be shipped in 2020.
- **Digital Assistant:** 40% of mobile interactions will be handled by digital assistants by 2020.
- **Security Analytics:** A fortune 500 company generates 10TB of data every month to look for security flaws.

Where does big data from:

Big data just keeps growing and growing, according to forrester research. The average organization will grow their data by 50% in the coming year. Overall corporate data will grow by a staggering 94% and databse systems will grow by 97%. Server backups for disasters recovery and continuity will expand by 89%. There are 3 major challenges in big data/

- Storing
- Processing
- Managing it efficiently.

by reducing the data footprint, virtualizing the reuse and storage of data and centralizing the management of the data set. Big data is ultimately transformed into small data and managed like virtual data.. now that the data footprint is smaller, organizations will dramatically improve data management in three key areas:

- Less time is required by applications to process data.
- Data can be better secured since the management is centralized even though access is distributed.
- Result of data analysis is more accurate since all copies of data are visible.

Why it needs attention:

1. By 2020 at least 1/3rd of data will be passed through a cloud server.

2. Every minute 300 hours of video are uploaded on YouTube.
3. 1 trillions photos (80% by smart phones) will be shared online.
4. By 2020 1.7 MB will be created every second for each human.
5. Digital universe of data will grow from 4.4 Zettabytes to 44 Zettabytes (44 Zettabytes=44 trillion GB)
6. 1.2 trillion searches in google every year.
7. White house has already invested \$200 million in big data projects.

Big data tools:

Big data tools are used for saving time, money and recovering management insights. Some of the tools are

- A. Data storage and management:** these are some popular data storage tools like mangoDB, Cassandra, neo4j, Apache HBASE and ZooKeeper, talend, hadoop and Microsoft.
- B. Data Cleaning:** data should be cleaned, reshaping and well structured by using the MS Excel and open Refine tools.
- C. Data Mining:** it is a process of discovery insight in the databse. The TERADATA and Rapidminer tools are used for this purpose.
- D. Data Visualization:** it is used to combine complex data in a well tabular form. The pictorial representation is the best method to understand efficiently. Some tools are tableau, IBM Watson analytics and plotly.
- E. Data Reporting:** the power BI tools are used.
- F. Data Ingestion:** is process of gathering the data in hadoop form which can be done by scoop, flume and apache storm.
- G. Data analysis:** requires asking questions and finding the answers in questions. It can be done through HIVE, Pig, MapReduce and Spark.
- H. Data Acquisition:** is used for acquiring the data through scoop, flume and storm.

Advantages of Big Data Tools:

- Provide the analyst with advanced analytics algorithms and models.

- Can run on big data platforms such as hadoop or any high performance analytics systems.
- Can work with structured and unstructured data from multiples sources.
- Easy to visualize the analyzed data.
- Easy to integrate with other technologies.

Big data technologies

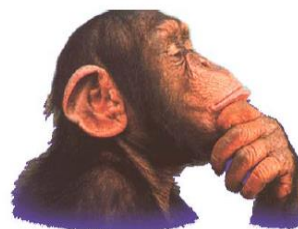
Big data technologies are used to perform accurate analysis to generate conclusions and predictions so as to minimize the risk in future.

Types of Big Data Technologies: There are two types:

- 1. Operational Big-Data:** is normal day to day data which we generate, the data that the organization produced which might be online transactions like social media or the data may produced from school, college etc. it is kind of raw data which can be used for analytical studies.
 Eg : Online booking like airline ticket, rail ticket and movie ticket.
 Eg : Online shopping like flipkart, walmart and amazon etc.
 Eg : social Media: like face book, twitter
 Eg : An employee details of multinational agencies.
- 2. Analytical Big Data:** is an advanced part of big data technologies. The analytical data is little bit more complex than operational big data. The analytical data is where the actual performance comes into the picture.
 Eg : stock market and space mission, weather forecasting and medical fields.

Relational vs. Non-Relational Architecture

Relational



- Rational
- Predictable
- Traditional

Non-Relational



- Agile
- Flexible
- Modern

Top Big-Data Technologies: these can be categorized into four category.

- A. Storage:
- B. Analysis
- C. Data Mining
- D. Data Visualization.

Big Data Technologies in data Storage:

- **Hadoop** : Hadoop database were designed for distributed data processing environment where commodity hardware is used for programming model. Hadoop framework has the capability to store and analyze the data present indifferent machine and different locations with high speed. It was developed by Apache s/w foundation in the year 2011 10th of Dec. there code was written in java and current stable version is Hadoop 3.11. some of major companies that can use the hadoop are : Microsoft, Hartonworks, cloudera,MAPR, Intel and IBM.
- **MongoDB:** mongoDB provide the relational schema. It is a NoSQL document database. It was developed by MongoDB in the year 2009 11th of feb. The code is written in C++, Go, Java Script and python. The current stable version is MongoDB 4.0.10. some of major companies that will used the MongoDB are MS Access, MS SQL Server, My SQL and Mongo itself.
- **RainStor:** It is a s/w company that developed database management of the same name. the RainStor for analyzed and managed for large enterprises. It uses deduplication technology. It was developed by RainStor s/w company in the year 2004. It works like SQL and current stable version of RainStor is 5.5. some major companies are Barclays and Credit Suisse.

Big Data Technologies in Data Mining:

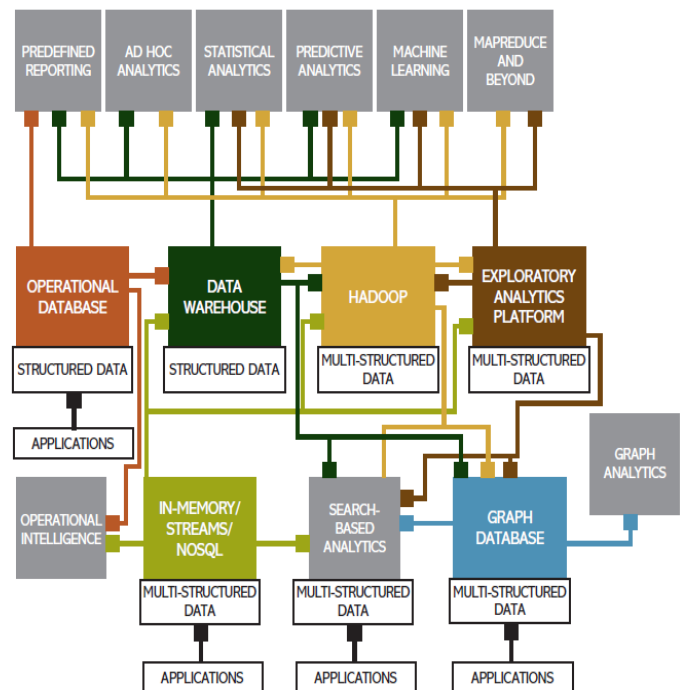
- **Presto:** It is an open source distributed SQL query engine designed for running analytical data for all sizes ranging from GB to PB. Presto is started by analyst who expects respond time ranging from sub second to minutes. Presto breaks the first choice between having fast analytical season expensive commercial solution or fre solution that require excessive hardware. It is an open source distributed SQL query engine. The presto was developed by apache foundation in the year 2013 in java language. The current stable version of Presto is 0.22. some major companies used presto are facebook, Repro, Checkr, Netflix and airbnb.
- **RapidMiner:** It is a robust graphical user interface. Rapidminer is a centralized solutions that has a powerful featured of rich interface. Rapidminer accepts many languages. It was developed by Rapidminer in the year 2001 and it uses java language. The current version of

Rapidminer is 9.2. some of major companies are BCG, Infocus, slalom, Domino’s and vivint.smartHome.

- **Elastic Search:** It is a search engine. It is a full text based search engine and based on Lucene library. It is developed by elastic NV in the year 2012 and use java language. The major companies are Netflix, Accenture, stackoverflow, medium and linkdin.

Big Data Technologies in Data Analytics:

- **Apache Kafka:**is a distributed streaming platform. The streaming plate form has 3 capabilities publish, subscribe and consume. It was developed by Apache S/w foundation in the year 2011 and use java language. The current version is Apache Kafka 2.2.0. the major companies are linkden, yahoo, Netflix and twitter.
- **Splunk:** is used to capture index and correlate the real time data in searchable repository which can generate graph, reports alerts, dashboards and visulalization. Splunk is a horizontal technology which can be used in application management, web analytics and security and compliance. It is developed by Splunk INC in the year 2014 and use AJAX, C++, Python and XML. The major companies are QRadar, QLABs, Trust waves and Splunk itself.
- **KNIME:** it is used to create Data flows and uses extensions mechanism. It was developed by KNIME in the year 2008 and use Java. Some of the major companies are paloalto, harnham and tyler.



R language: R is a programming language and free software environment for statistical computing and graphics supported by the R Foundation for Statistical Computing. The R language is widely used among statisticians and data miners for developing statistical software and data analysis. Some of the major companies used R Language are Barclays, Bank of America and American Express.

Block Chain: Blockchain is a global online database that anyone with an internet connection can use, but it doesn't belong to anyone. Unlike traditional databases which are owned by central figures like banks and governments, a blockchain doesn't belong to any one and with the entire network looking after it, checking the system by faking documents, transactions and other information become near impossible. Blockchain store information permanently across a network of personal computers. This is not only decentralizes the information but distributes it too. This make it difficult for anyone person to take down the network or corrupt it. The many people who run the system use their own personal computers to hold bundles of records submitted by others. The records are known as blocks. Each block has a time timestamp and a link to a previous block, forming a chronological chain. It is like a giant google doc with one key difference. You can view it and add to it, but you can't change the information that's already there. The blockchain enforces this by using a form of math called cryptography which means records can't be counterfeited or altered by someone else. Bockchain most famous application is Bitcoin. It is digital currency that is created and held electronically and you can send it to anyone whether you know them or not.

CONCLUSION

Big data is important primarily because it is growing at an exponential rate. Over five exabytes is created every two days. The problem with Big Data is not just data analysis, but with discovering, harvesting, curating, storing and its management. Currently, there are massive amounts of data both structured and unstructured, that need to be analyzed in an iterative, as well as in a time sensitive manner. In response to this need, data analytical tools and services have emerged as a means to solve this problem. Big data analytics aims at deriving correlations and conclusions from data that were previously incomprehensible by traditional tools like spreadsheets. Big data analytics uses tools like Hadoop, SAS, R etc which are more powerful than previously used rows and columns. Big data analytics can help companies use data to influence not only future decisions but present decisions as well.

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India's General Election: The Analysis of Democratic and Republic of India

Abheyender Singh*, Reena**, Rishipal Rana***

Abstract: If we talk about the history of elections, the selection system has emerged as well as the rise of human life. As the human brain or human race develops, the election system has also grown in a strong and robust manner. Today, the whole world talks about the development of mankind at the global level by adopting the political election process. At the same time, it becomes absolutely clear that India's electoral history is similar to the history of the world. Every person in this world wishes to pursue their routine by choosing the desired object according to their wish. We make the choice of every smallest and bigger action in our life according to our wishes and our own discretion. The process of selection is related to the history of mankind only on the human life election or simply depending on the selection. A small misdemeanor of ours can put us in trouble. On the other hand, when we talk of elections, which are directly related to politics and politics directly relates to human life. Then we choose a suitable person to run his governance administration using a special election system and that person should tell us or say that "Vasudev kutambhikam" works for the family. By which our nation and we are on the path of progress and progress. The significance of elections can be summed up by the fact that every country on the global platform, which wants to get itself and its citizens universally, recognized, using the electoral process to choose for itself and the electoral system for its people. Whether it is democratic or monarchy, the democratic election process, or by using any other process, choose a strong governance system and government for itself. We must also keep in mind that this topic is a subject that is linked to the fundamental rights of every person, the way we have the freedom to live, so our constitution has given us freedom to choose or to rest. For this, we make fair and fearless elections. Our election system is one of the strongest election systems in the world. Where we celebrate the election as a celebration where every Indian has given this right to the Constitution, on the other hand it is our duty that we have full faith and faith that the election of a capable government by using this right given by our constitution. Please. For this, we should make a deserving decision by using our senses wisdom and all those senses. On the other hand, when there was a debate on the topic of who is eligible for the election in the political election system and who is not. Then the Constitution makers of India made it clear in the matter that every Indian citizen can participate in the election process after the age of 18, but any Indian citizen's age limit should not be less than 25

years for contesting elections. India is the largest democratic governing system in the world, a clear example of this is also the election process. This election process in India started in a constitutional way in 1951, which is continuously touching the heights and developing its own development and country.

1. INTRODUCTION

Elections are the pillars of democracy. Elections in India have been a long way since independence. The number of voters in the general elections held in 1951-52 was 17, 32, 12,343, which increased to 81, 45, and 91,184 in 2014. [1] In 2004, 670 million voters participated in Indian elections (this number was second more than double of the largest European parliamentary elections) and its declared expenditure increased threefold to \$ 300 million from 1989. In these elections approx one million E.V.M. were used.

Given the huge number of voters it has become necessary to organize elections in many phases. This process of elections is done in a phased manner, in which the date of the election is announced by the Indian Election Commission, by which the "Code of Conduct" implemented on all political parties. After the declaration of the results and the list of successful candidates' state or the entrance to the executive head of the center are included 543 elected members of Lok Sabha will be elected by a pre-post-poll from single-member constituencies. Two members are nominated as an additional by the President of India.

India's first general election, which the world saw as a gaze, the new liberated India gave the right to vote for all adults, in this sense, it went beyond the US and Europe. 1950s Independent India had become a republic. On the other hand, there was turmoil in Asian countries. China had come under the jurisdiction of communism. The Prime Ministers of Jordan and Iran had been murdered. There was also steaming in India about Kashmir. Jawaharlal Nehru was appointed the prime minister to say so but the country had not chosen him yet. While Russia was increasing its influence on Nehru, America was also in the same endeavor. Overall, there was an atmosphere of instability.

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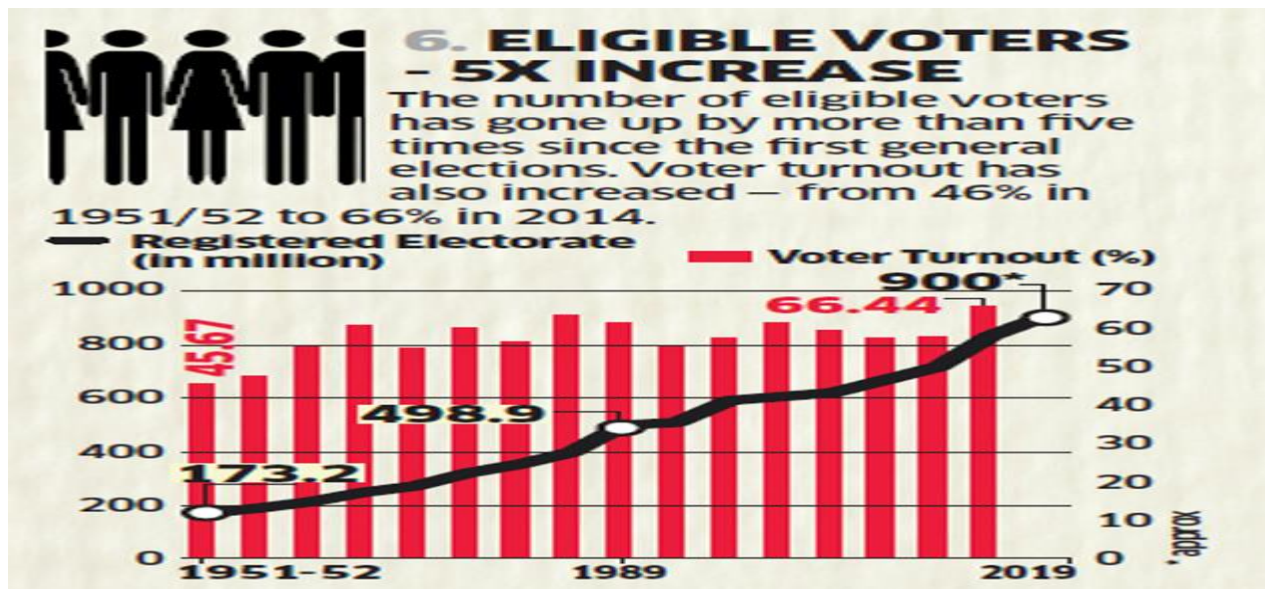
Table 1. Voting Percentage in General Elections 1951-52 to 2014

General Elections	Year	Male %	Female %	Total %
First	1951 - '52	NB: Gender-wise break-up of electors of General Elections conducted before 1971 is not available.		61.16
Second	1957			63.73
Third	1962		46.63	55.42
Fourth	1967	66.73	55.48	61.33
Fifth	1971	60.09	49.11	55.27
Sixth	1977	65.63	54.91	60.49
Seventh	1980	62.16	51.22	56.92
Eighth	1984 -'85	61.2	58.6	64.01
Ninth	1989	66.13	57.32	61.95
Tenth	1991 -'92	61.58	51.35	55.88
Eleventh	1996	62.06	53.41	57.94
Twelfth	1998	65.72	57.88	61.97
Thirteenth	1999	63.97	55.64	59.99
Fourteenth	2004	61.66	53.3	58.07
Fifteenth	2009	60.24	55.82	58.21
Sixteenth	2014	67.09	65.30	66.40

Source: Election Commission of India

In the situation of this confusion, the first question was the question that everyone was a Republic, but when will the country become a democracy? The expectations of all were only on the head of the country. Nehru too was quick to make the country a democracy. As a result, India started preparing for election Mahakumbh. Ramchandra Guha in 'India after Gandhi' writes that the first general election, besides the rest of the things, was also a battle to gain public confidence. That's

right. In Europe and America, where adult franchise had limited meaning, women were deprived of this right at first, whereas on the contrary, newly independent Hindus had given voting rights to all the adult people of the country. The country which had been freed for barely five years, in which country has been monarchy for centuries, where education level is only 20 per cent; the population of that country is ruled by its own rule.



Source: - <https://economictimes.indiatimes.com/news/elections/lok-sabha/india/numbers-behind-the-elections-10-interesting-things-about-the-worlds-largest-electorate/articleshow/68351073.cms?from=mdr>

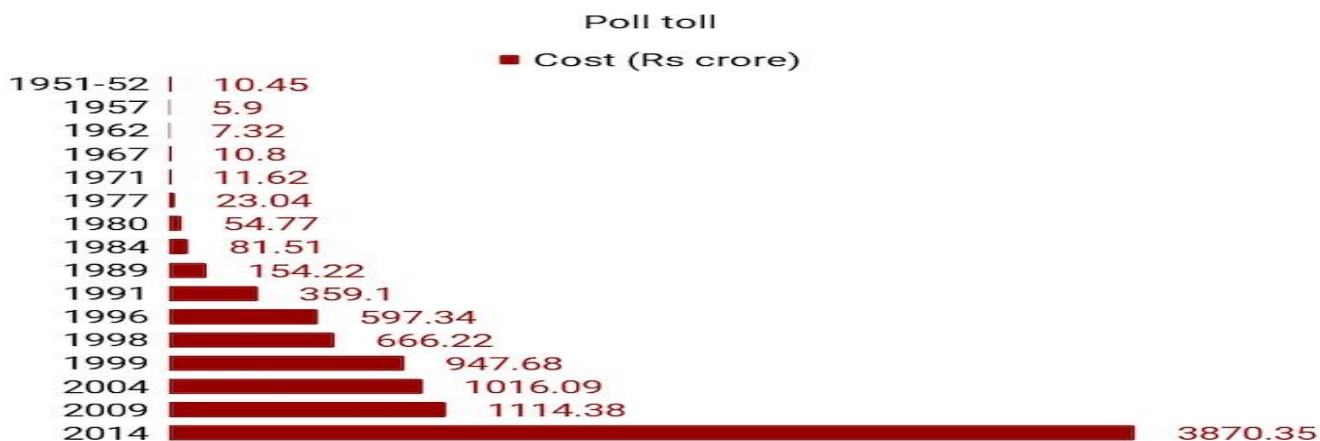
The past and Future of Indian Electoral system:-

Election Commission was formed a day before India became a republic. SukumarSen was appointed the first Chief Election Commissioner on the suggestion of Jawaharlal Nehru. SukumarSen was a highly regarded mathematician in addition to being a highly qualified ICS officer. He did not allow Nehru's habit of hurling himself over. Jawaharlal Nehru wanted elections in the beginning of 1951.

Although the process of elections in India had started before independence, then its political scope had subsided to 11 prefectures of British India. The people of the princely states were so far away from the election process. This was the first opportunity for him after the integration. The scope of this first electorate was spread over one lakh square miles. Then about 17.1 million people were adults among the 36 million population of the country. There were elections for about 4500 seats in which the Lok Sabha had 489 and the other state assemblies.

This time, there were not even experienced Englishmen. But it was only SukumarSen and other qualified ICS officers that this whole process was executed in a very honest manner. Some very interesting ways have been invented to deal with the problems. 22400 polling booths were made. Where most people were unable to read, election symbols were given instead of party name. For the ease of the people, a ballot box was placed on the polling booth with every party's election symbol. According to RamchandraGuha, there was a problem also that at the time of the census, uneducated women used to call their names 'Phalan Ki Maa' or 'Phalan's wife'. Therefore, SukumarSen decided that names of such 28 lakh women should be removed from the voters list and can be solved by this problem till the next elections. In order to explain the process of elections, the commission used election Supported films, posters and banners, etc. In the elections of the

Congress Party in 1950, Nehru-supported and devout Gandhian Bhagatram Lord Das Kriplani had lost to the party supported by Hinduism faction Purushottam Das Tandon. AcharyaAcharyaKripalani had quit Congress and formed a farmer MazharpurPraja Party. Tandon resigned from the post after opposing Nehru and growing differences within the party. Jawaharlal Nehru's bid for prime minister became stronger and stronger. At the same time, Jaiprakash Narayan of the Socialist Party was growing rapidly. On the other hand, Shyamaprasad Mukherjee, leaving the Indian National Congress, established Jana Sangh and in the first general election, his claim was made. The Jan Sangh had considered the Hindu vote bank as its main base. ShripadAmritDange of Communist Party of India was also dreaming big. But the most shocking was that of BhimraoAmbedkar. It is said that after being hurt by Jawaharlal Nehru, Ambedkarand the most knowledgeable person of India's ethnic equations had quit Congress and created a Scheduled Caste Federation, which later became a "Republican Party". Ambedkar was directing Nehru on the electoral gatherings by saying that he was not doing anything for the castes called lower. The Constitution had not been implemented for two years, and Ambedkar had assumed that Congress was doing nothing for the lowest level of society. Every party has structured in their own way. When Nehru attacked communalism, Ambedkar convinced Nehru's policies. The Jana Sangh started spreading the concept of 'Sangha Shakti Kaliyuga'. Kripalani and JP attacked Congress over the ignorance of the poor The Communist Party has not left anybody else to say 'corrupt' and 'cunning'. The Communist Party was getting support from Soviet Russia. Moscow was delivering the radio party's agenda to the people. The walls and the historical sites were divided by posters and slogans. Writing on the back of the cows elsewhere, votes were asked for the party. Nehru, Shyamaprasad Mukherjee, JP were all more than one speaker. Nehru said to be a beggar who sought votes for the betterment of the country!



Source: - <https://timesofindia.indiatimes.com/business/india-business/how-much-does-your-vote-cost/articleshow/68574940.cms>

The first vote was in Chhinni Tahsil of Himachal. The day was 25, October 1951. In February 1952 election was over. Tucked away Sukumar Sen thanked everyone and said it was the biggest experiment of democracy. The immense popularity of Jawaharlal Nehru gave the All India Congress Party the victory with a majority. He won the Uttar Pradesh's Phulpur seat with heavy votes. The candidates who won more votes than those were CPI's Ravi Narayan Reddy.

Acharya Kripalani lost to Faizabad. Bhimrao Ambedkar lost the reserve seat of Bombay to a small Congress candidate. In 1954, in Bhandara (Maharashtra) by-election, they stood again and again lost. His entry in the Parliament was only from the Rajya Sabha.

Congress managed to win 324 of the 489 seats of Parliament and its biggest cause was Jawaharlal Nehru. His performance in the state assemblies was spectacular. Of the total 3280 seats, Congress has won 2247. Many western political analysts also surprised by the success of the first general election. He suspected that India would be able to do this great exercise successfully. The princes of the princely states, who bet on their failure with jam every evening, were now gathering in this preparation to get tickets from the Congress in the next general elections. It is said that the Nizam of Hyderabad, who resisted the merger in the country, was one of the first to vote. Not because he had been convinced in this arrangement, but because he did not have to face the embarrassment of being in line with the common people.

Referring to Nehru's greatness, a Turkish journalist described it as the victory of 17 million people. Nobel laureate of Sweden, Gunnar Myrdal, after the victory of democracy, also called Hindustan as 'soft state' They may have their reasons for saying and following, but the first general election of India was arguably a successful experiment.

2. OBSTACLES TO INDIAN ELECTORAL SYSTEM

In the Indian electoral system, democracy has also taken full care of the republic. Or say that India is a democratic republic. No election process is easy. After India's independence, there is a lot of difference in the electoral system and in today's election system. But there were some obstacles that are still affecting the election system. Such as hidden unemployment, population, poverty, illiteracy, religion, caste, ignorance, communalism and other types of obstacles that are still affecting the election process like a demon. The manner in which every election has its own merits and faults, the process of election has many such things that affect the unwanted ones. They hinder the election in the right way. To overcome the above written and other constraints, we should make constant efforts. People should understand about the importance of the vote and make them aware of more and

more voting. As we tried to tell through this research paper that the election system affects every human life. Where it makes a normal person too powerful on the other hand while the powerful person also bow in front of a common citizen. It is also very common to believe that good governance is not possible without the election system. As in the past, on the basis of ancestral electoral system, the son of the king used to handle the rule whether he was qualified or not. But presently, in the Indian Constitution a common citizen has given such powers through which he makes a significant contribution in building a strong governance system. It has been a tradition of Indian society that it always works for the upliftment of mankind through an appropriate election system. We, too, have been pursuing this tradition today by forming a strong competent election system for the Indian electorate and participating in every person's partner. This is the process through which you and we can make our country the best on the global screen.

3. CONCLUSION

Election is the basis of democratic governance. Independent and impartial election mechanism provides stability and maturity to democracy. For a long time, demand for electoral reforms has been going on in the country for quite some time now. The question of ending the corrupt methods adopted during the elections was pending for a long time before the government. Experiences in previous years have emphasized the urgency of electoral reform. Election Commission also sent some suggestions to the government. Leaders of political parties and other enlightened citizens also attracted the government's attention towards several reforms. From time to time, concrete ideas have come out from many forums about the need for reforms and their nature. The government has discussed issues related to election reforms with leaders of political parties. Keeping these things in mind, the government passed two legislations of Parliament in December 1988 - a Constitution Amendment Bill and the Second People's Representative Bill. The provision of significant and comprehensive reforms has been made in the election system of the country by the above two bills. Below we will discuss some important improvements. These reforms can be explained in many categories, such as regarding voter related matters, voting system related, candidates related to corruption, elections related to EC, elections expenses and political parties.

In this sequence, we will discuss them:

- 1) The largest and the most amicable revision is in relation to the voters. So far 21 years of age was fixed for the voter. Now it has been reduced to 18 years. This was done because the youth of the country are educated and enlightened, and it would be good to make them

participating in the political process of the country. On the basis of this amendment, the estimated Rs.5 crore youth (who have been 18 years old) voted for the 1989 general elections. This number has increased significantly in 2009. This amendment is a bold democratic experiment.

- 2) The amendment in relation to the voter system is that the voters will register their votes through electronic machines. Using this method will save time and reduce the chances of disturbances while voting will be reduced. Although the cost of these machines will be about Rs. 250 crore, but considering the convenience of these, this expenditure can be considered worthwhile. Electronic machines have been used in some states in the 1999 general elections.
- 3) Several important improvements have been made regarding the candidates in the election. Many new crimes have been included in the election rules, whose criminal cannot become a candidate in the elections, such as those who behave cruelly with the wife, those related to Sati, crime, who violate dowry law, communal dispute Criminals, violators of foreign currency laws, violations of drugs and drug laws and violations of customs laws Take, and who punished the abuse of religious.
- 4) One improvement in the relation of the candidates is that it is necessary for members of the RajyaSabha and State Legislative Council to become candidates in the elections, that at least 10 electors or 10 per cent electorate should propose their name. It has been said that only those people can come in the form of candidates, who are seriously keen to contest elections.
- 5) Some amendments have been made to prevent disturbances and corrupt measures during elections. Those who have made disruptions in election meetings or breaking of election meetings can be sentenced for up to three months and fine of Rs.1000 / - or punishable. This improvement is good and will help to maintain discipline. Often the complaints about attacking or occupying polling stations are coming to light. Now the law has been made clear by giving clear definition that those who are found guilty of attacking and capturing polling stations will be punished from six months to three years.
- 6) Due to lack of rights, the EC had to face difficulties in adhering to its duties. Now the powers of the Election Commission have been extended for the purpose of removing these difficulties and thus the Election Commission has become more efficient. One of the most

important reforms is that those who will be deployed on electoral duty at the time of elections will be disciplined during the election period and during elections related to the Election Commission's discretion. Thus, the EC will be able to execute its functions more efficiently.

- 7) The new system in relation to political parties is that they will have to register themselves with the Election Commission. According to the new rules, such arrangements will be made that the political parties who do not believe in socialism, democracy and secularism will not register them with the Election Commission. At the same time, every political party that has its registration with the Election Commission will have to pledge to maintain loyalty in the constitution of the country. Thus, political parties have to meet certain national requirements.
- 8) Often complaints come and it has been seen that the people of the state administration assist the ruling party candidates. The ruling party candidates use the machinery of the state government in their election campaign to their advantage. This tradition is not good. Therefore, it should also be tried to stop it.
- 9) There has also been a suggestion regarding fair elections that on the day the polling takes place, the work of calculating the votes at the polling booths (in the presence of the representatives of the candidates) is completed immediately after the end of the polling day. People are disturbed in calculating the ballot boxes to take-away and afterwards (two to three days).
- 10) During the elections, many cases of fake vote cast are brought to light. But people think that the numbers of issues that come in light, many times their cases remain hidden. It has been suggested to give an identity card to the voters to end this voting problem
- 11) Another idea has emerged in the public way that if a candidate does not fulfill the promises made to his voters after winning the election, or does not take interest in solving their problems, or starts making money in a corrupt way, or immoral If the person is indulging in the work, then a certain percentage of the voters (the percentage can be fixed) will be entitled to recall the candidate by giving the application form. With this, the people's representatives will keep their conduct well and will look at serving their voters.
- 12) One suggestion is that the government should elect the election expenditure in elections. All candidates cannot spend the same amount of money. The candidate, who spends 8-10 lakh rupees on election, wants to earn

double after winning the election. If the government elects the electoral expenditure, then decisions will not be made on the basis of more money in elections. Anyway, democracy will be pure when this happens.

- 13) There has also been a suggestion to free the elections from the effects of money and liquor.
- 14) During the election, the role of 'grandfathers' in capturing the polling booths or forcing them to vote or forcing them to vote is also very small. Therefore, there is a strong and effective measure in this direction

In the context of election reforms, it was to say that measures should be taken to break the closeness of Dhanna Seth, Dada and politicians. It should be expected that this issue will also be considered. Lastly, the reforms that were done in December 1988 were actually implemented from the effective clouds during the tenure of former Chief Election Commissioner Mr.

T.N. Seshan. But it is necessary to make laws by considering the other reforms that have been given attention. Without them democracy will be weak and meaningless. There is a need to bring changes in the political process of the country, even with election reforms. Otherwise, the crores of the country will remain in the pockets of freedom and democracy, in the path of 'people'

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Artificial Intelligence: Reshaping Life and Business by Dr. Prabhat Kumar, BPB Publication

Reviewed by Kavita Pabreja*

Publisher: BPB

This book is based on the concepts of Artificial Intelligence and explains the same with lots of real-life examples and case studies. The author is an adjunct faculty at IIT Delhi, a practicing lawyer, and a corporate consultant.

Given below is the chapter-wise review.

Chapter 1 throws light on evolution of AI since 1955 and how various governments, technocrats have accepted and promoted the AI technology in fields like robotics, military, chess game, baby sitter, and manufacturing sectors.

Chapter 2 explains general and specific applications of AI in various application domains. All concepts have been explained at a broader level. Excellent examples of Computer vision with reference to machine vision have been given. Also, the present and future of driverless cars has been explained in detail, throwing light on impact of deploying these cars, on insurance companies. Amazing applications and challenges of AI drone, chatbot, NLP, IOT are cited.

Chapter 3 talks about hardware revolution that led to the growth of AI and mainly includes GPUs for deep learning. Investments in AI has increased globally because of its high rate of growth. It focusses on mergers and acquisitions and a large number of patents being filed in the field of AI. Indian start-ups in AI has also increased many folds. The number of research and publication work has also risen globally.

Chapter 4 is based on huge data being collected in social media space, e-commerce. 5G technology is the major fuel to contribute for faster movement of data on networks. This chapter also talks about privacy issues related to data collection and usage.

Chapter 5 briefs about the interests of Big technology companies in AI as only AI can bring in higher revenues for them e.g. Google has produced GoogleBrain (TensorFlow), Google Assistant, and also entered in health care industry, smart city projects, smart maps and many more. Amazon has developed Alexa, AWS, autonomous driving solutions. This chapter also tells about various developments by Apple, Facebook, IBM, Nvidia, Microsoft, eBay, Alibaba, Baidu, Tencent in AI field.

Chapter 6 tells about inception of a large number of start-ups in different AI industries e.g. Affirm, AlphaSense, Byte-dance, CrowdStrike, Darktrace, Flatiron, GrayOrange, InsideSales.com, Mobileye, ORCAM, SenseTime, UBTECH, Zoox, Zymergen. It focusses on various sectors where these companies have been working upon.

Chapter 7 briefs about AI start-ups in financial sector. This chapter discusses about the latest technology trends, benefits, challenges and solutions offered by AI in the field of finance.

Chapter 8 focusses on AI for healthcare industry e.g. imaging, diagnostics, remote monitoring, etc. AI can be used for early cancer detection, glaucoma detection, brain clots detection, interpret echograms, and so on. Various start-ups in health industry that use AI are discussed.

Chapter 9 is about impact of AI on recruitment process. Better screening, and fitment of candidates for jobs can be done. Again, the work done by various start-ups globally in this field are discussed.

Chapter 10 tells about popular start-ups like Myntra, Belmiraz, in the field of fashion. Also, how hospitality, law and agriculture industry got benefitted by AI has been discussed.

Chapter 11 talks about most important aspect of AI for a common man i.e. privacy. It tells about how biasness of AI algorithms can be beneficial or harmful to consumers. It also tells about how overindulgence in social media is harming general public.

Chapter 12 is about future of AI in fields like voice-based systems, computer vision, self-driving vehicles, robots, drones, etc. It also compares diligently the human brain and computer in terms of processing speed, flexibility, weight and space etc. It also tells about the expectation of human beings from machines in future and how humans will match themselves with capabilities of machines.

The author has done justice to the subject and presented detailed information related to AI and its vast applications that impact human beings directly or indirectly.



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