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Quality Assurance in Higher Education: Practices and Issues

Quality Assurance in Higher Education: Practices and Issues

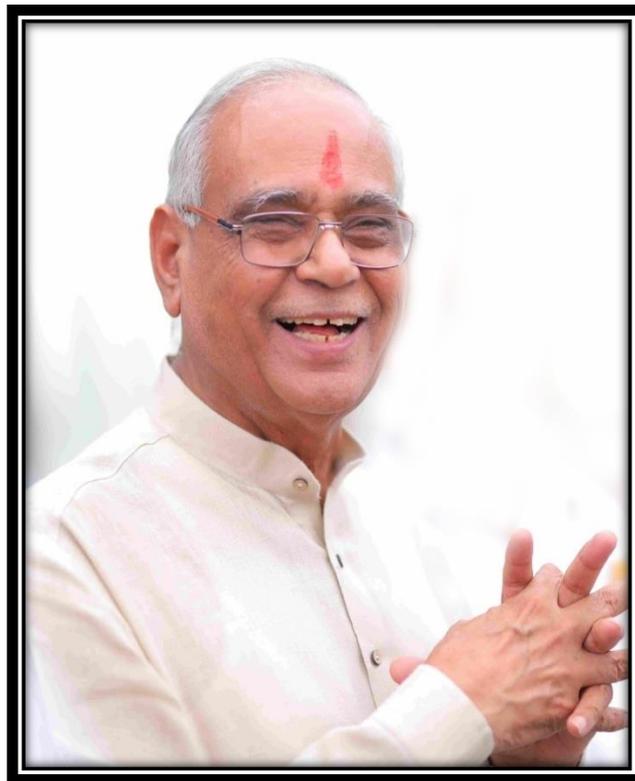


Chief Editors
Dr. Promila Dabas
Dr. Anviti Rawat

Proceedings of
National Conference
on
**“Quality Assurance in Higher
Education: Practices and Issues”**
(Sponsored by National Assessment and Accreditation Council)

16th – 17th May, 2019

Dedicated to the memory of our beloved sir



Shri S.P. Singh

*The visionary who always guided us on
the path of excellence by quoting John Ruskin,*

“Quality is never an accident. It is always the result of an intelligent effort”.

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National Conference on Quality Assurance in Higher Education: Practices and Issues

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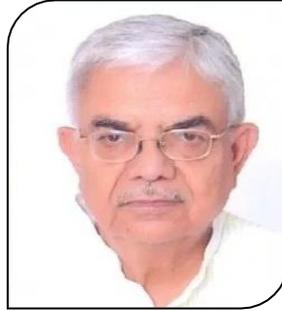
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Message from President, Surajmal Memorial Education Society



Hearty Congratulations to the entire team involved in the organization of **NAAC Sponsored National Conference on “Quality Assurance in Higher Education: Practices and Issues”**. It is our privilege to have educators, academic leaders, researchers, academicians who have come together from across the nation at MSI.

I would appreciate the team for selecting such a significant theme which promises to help us in achieving the goal of academic excellence in higher education with quantitative and qualitative expansion. India is still struggling for inclusive education that ensures equity, justice and empowerment of the masses. On the other hand, there is a concern of assuring quality in education and its outreach to all sections. For any nation that aspires to advance on the path of major political, economic and social transformation must focus on Quality Assurance in education sector. The quality at higher education level will create a ripple effect and will have a significant impact on country’s economy and other sectors such as public health, public administration or democratic citizenship. Assuring quality is a continuous teamwork in which benchmarks and qualitative practices play a significant role. Quality assurance has to be implemented internally though it is normally assessed through external agencies for accreditation.

I appreciate the support of our sponsor, National Assessment and Accreditation Council (NAAC). I would also like to express my appreciation to the all the resource persons for their valuable contribution in assembling the high quality conference program. A conference of this size relies on the contributions of many volunteers, and I would like to acknowledge the efforts of every member in making the conference a grand success. I am also grateful to all the authors who trusted the conference with their work. I would like to conclude my message with a quote

“Education is the most powerful weapon which you can use to change the world.”

Dr. APJ Abdul Kalam

My best wishes to all of you for seeking this path towards gaining and spreading knowledge.

With warm regards,

Kaptan Singh
President, SMES

Foreward

Excellence is a high quality, that delivers success and achievement.

-Mark F.Lamoure

Higher education has undergone significant transformation on account of widespread expansion, increased autonomy and introduction of programmes in emerging areas. The fact remains that there is tremendous quantitative increase in terms of access to higher education but at the same time it has also led to the widespread concern on the quality and relevance of higher education. The traditional set-up for imparting higher education, comprising of mostly government funded public institutions of higher learning (IHL) is facing competition from the competitive private sector in the age of globalisation. Over the years, inertia has crept into the traditional set-up and despite having the faculty with better qualifications and experience, their systems for service delivery and quality have not responded to the fast pace of change encompassing the education sector.

Quality assurance in education is a methodology in the broadest sense of its application to check a process or outcome with different purposes of compliance, control, accountability and improvement (Harvey, 2012). Nowadays, quality assurance processes in higher education are becoming increasingly frequent and widespread across the nation. As the government and the industry advocate the need for a well-educated workforce, essential to increase productivity and maintain a competitive edge in the global knowledge economy, this has resulted in an increase in public funding for higher education and a drive to make post-secondary education more accessible, particularly for under-represented populations. This, in turn, has brought about calls for greater accountability on the part of educational providers and the measuring of outputs through quality assurance processes.

When quality has been successfully embedded within an educational system, there could potentially be sustainable enhancements to the process and procedures, and consequently students will benefit in terms of receiving better quality education and skills development, which in turn could also contribute to the nation's economic and social success for the future. As good quality assurance practices require a strong internal quality assurance system, it requires balancing the policy roles and responsibilities of not only the higher education providers, but also the government, quality assurance agency and professional bodies to ensure that effective and sustainable quality management system can be successfully implemented in higher education institutions across the nation.

This two days National conference held by Maharaja Surajmal Institute, sponsored by NAAC, is aimed to provide a platform for educators, administrators, managers, leaders, policy makers, researchers, scholars, principals, supervisors, graduate students, practitioners, academicians, professionals and teachers from different discipline backgrounds to present and discuss research, developments and innovations in the fields of higher education with reference to quality assurance. This conference proceedings presents more than 58 papers which examine quality assurance and evaluation in higher education, including methodologies, procedures, and ideas from various states across the nation.

Prof. (Dr.) Rachita Rana
Director, Maharaja Surajmal Institute

Preface

Maharaja Surajmal Institute has been established through the dedicated and selfless endeavours of educationists and social workers who are deeply concerned with the standards of education and are determined to upgrade the quality, content and direction of education. Having unflinching faith in the fact that higher education is the backbone of every nation and a stepping stone for country to move into the niche` of developed nation MSI leaves no stone unturned in ensuring the quality in all the spheres of teaching and learning. MSI is NAAC 'A' accredited and this cycle of accreditation resulted into building-up standards in education.

The NAAC accreditation of higher education institutes in India has helped to enhance the qualitative and quantitative growth of human resource development which was envisioned in the constitution of free and democratic India. Having a vision to make quality the defining element of higher education in India, NAAC is leaving no stone unturned in creating awareness amongst the stakeholders and people from education fraternity The NAAC has provided them an opportunity to assess themselves in order to earmark their benchmarking for mapping the world maps. We record our sincere thanks to the sponsoring agency NAAC for organizing conference and bringing the compendium titled quality assurance in higher education: practices and issues. This compendium was motivated by the desire to bring excellence in higher education. As you page through this compendium you will find quality content on the various sub themes like, challenges for quality higher education, benchmarks for quality higher education, innovative teaching pedagogies, ICT integration in higher education, leadership and professional development, assessment practices in ensuring quality at tertiary level.

We express our heartfelt thanks to Prof. (Dr.) Rachita Rana, Director, MSI who has been with us with her unwavering support and encouragement since the inception of this book and in bringing the compendium to its present state. We also extend our deepest gratitude to all the contributors who have added immense value to this volume by their valuable contributions. And last but not the least we extend our wholehearted thanks to the organizing committee of national conference '2019 comprising of faculty, technicians, staff and students for their commendable team work in bringing the conference to its fruition. We are thankful to all members of editorial team for bringing the compendium in a coordinated manner and providing all the requisite support.

Chief Editors

Dr. Promila Dabas

Dr. Anviti Rawat

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Apex Agencies in India for Assuring Quality in Higher Education

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Abstract: Education in general and higher education in particular is the pavement to become a developed nation from the developing one. Quality higher education is a pedestal to world stage in terms of economy and social security. The India today is striving with the questions of deteriorating quality despite the fact that in the past it was a guru of all countries in many aspects. The change from then and now needs to be addressed to be resolved step by step to bring quality in higher education. The government is conscious towards this agenda and it has created various channels for assuring quality in higher education. This article throws light upon the top agencies formulated by government of India for the improvement of higher education in India. The agencies are: University Grants Commission (UGC), Association of Indian Universities (AIU), All India Council of Technical Education (AICTE), National Council of Teacher Education (NCTE), Council of Scientific and Industrial Research (CSIR), Indian Council of Social Science Research (ICSSR) and Indian Council of Agricultural Research (ICAR) and National Assessment and Accreditation Council (NAAC). these agencies keeps a track on institutions of higher education through time to time formulations of norms and regulations, assessments, accreditation and evaluation processes.

Keywords: Indian Education, Apex bodies, UGC, NAAC, AICTE, ICSSR, ICAR, AIU & AICTE

1. INTRODUCTION

The Highest body of Indian Education system is – MHRD Ministry of Human Resource Development of Government of India. The Ministry of Human Resource Development, formerly Ministry of Education (until 25 September 1985), is responsible for the development of human resources in India. The Ministry is divided into two departments: the Department of School Education and Literacy, which deals with primary, secondary and higher secondary education, adult education and literacy, and the Department of Higher Education, which deals with university education, technical education, scholarship etc. As depicted below the three pillars which are working for quality education at school level and higher education level are, Policy Making, Regulation and Accreditation. MHRD being the apex policy making body in India is working hand in hand with other regulatory and accreditation educational bodies for assuring quality in education.



Fig. 1. Regulatory Framework of Indian Higher Education

The pinnacle agencies formulated by government of India for the improvement of higher education in India with their acting heads in the year 2019 are as follows:

S, No	Apex Bodies	Present Head of institutions
1	University Grants Commission (UGC)	Dr. D.P.Singh
2	Association of Indian Universities (AIU)	Prof. (Dr) Sandeep Sancheti
3	All India Council of Technical Education (AICTE)	Prof. Anil D. Sahasrabudhe
4	National Council of Teacher Education(NCTE)	Dr. Satbir Bedi, IAS
5	Council of Scientific and Industrial Research (CSIR)	Dr.Shekhar C.Mande
6	Indian Council of Social Science Research (ICSSR)	Dr. Braj Bihari Kumar
7	Indian Council of Agricultural Research (ICAR)	Dr. Trilochan Mohapatra
8	National Assessment and Accreditation Council (NAAC)	Prof. S. C. Sharma
9	Association of Indian Universities (AIU)	Prof. (Dr) Sandeep Sancheti

University Grants Commission (UGC)



UGC was recommended in 1945 and formed in 1946 to oversee the work of the three Central Universities of Aligarh, Banaras and, Delhi. In 1947, the Committee was charged with the accountability and responsibility of handling all the then existing Universities. After independence, the University Education Commission was set up in 1948 headed by Dr. S. Radhakrishnan as the Chairman and it recommended that the UGC be reconstituted on the general model of the University Grants Commission of Britain. UGC was formally inaugurated by Abul Kalam Azad, the then Minister of Education, Natural

Resources and Scientific Research on 28 December 1953. The UGC was, however, formally established in November 1956, by an Act of Parliament as a statutory body of the government of India, GOI. The UGC has de-centralised its operations by setting up six regional centres at Pune, Hyderabad, Kolkata, Bhopal, Guwahati and Bangalore to ensure effective region-wise coverage throughout the country. The head office of the UGC is located at Bahadur Shah Zafar Marg in New Delhi, with two additional bureaus operating from 35, Feroze Shah Road and the South Campus of University of Delhi as well.

The University Grants Commission (UGC) was set up by the Government of India under an Act (3 of 1956) of parliament in 1956 at New Delhi. There are nine members including the chairman and appointed by the Government of India out of these not more than three are from among the vice chancellors of universities, two are from officers of government of India and the remaining four are from among the educationists of repute with high academic distinction. Now in addition to a full time chairman there is a full time Vice-Chairman and the total number of the member of the commission is increased as 12. A member is to hold office for a period of six years. The UGC performs the subsequent important functions like coordinates university education, determines and maintains standard of teaching, It determines and maintains standard of examination and research in university. The reconstituted U.G.C as the statutory body is discharging its functions very effectively and has undertaken in its purview a wide range of activities under section-12 of parliament Act-3.

The outlined activities carried out by UGC are as follows:

- U.G.C makes an effort to improve the quality and standard of education.
- It gives full grants to the central universities and also developmental grants to various state universities.
- It gives fiscal assistance for the development of the existing post graduate departments and opening departments in various universities and colleges.
- It determines the pay scale of college and university teacher. It also approves grants for the construction off staff quarters and hostels for the students.
- It facilitates teacher fellowships for research studies among college and University teachers.
- It implements teacher-exchange programmes through seminars, workshops etc.
- It renders assistance to the teachers to visit foreign countries for research and other innovative activities.
- It brings out reports, books and journals for developing teaching standard of teachers in higher education.
- It approves grants for organization of seminars and research at the National level, state universities and colleges.

- It also sanctions grants for conducting minor and major research projects.
- It has also established 'centers of Advanced Study' in a number of universities for the improvement of standards in education.
- It examines the financial requirements of every university of India.

Besides the above functions the development programmes are normally examined and discussed by the visiting committee with the universities during each plan period.

Association of Indian Universities (AIU):

The Association of Indian Universities (AIU) established in 1925 as the inter-universities Board, was the apex body for university-level institutions in India. It was originated in our country in accordance with the recommendations of Sadler commission in the year 1917 for maintaining proper coordination among the universities. Association of Indian Universities (AIU) is an organisation and association of major universities in India. It is based in Delhi. It evaluates the courses, syllabi, standards, and credit of foreign Universities pursued abroad in various countries and equates them in relation to various courses offered by universities in India.



The AIU is mainly concerned with the recognition of Degrees/Diplomas awarded by the Universities in India, which are recognized by the University Grants Commission, New Delhi, and abroad for the purpose of admission to higher degree courses in Indian union. The AIU is also an implementing agency for the agreements signed under the Cultural Exchange Programmes executed between India and other countries in the field of education, insofar as it relates to the recognition of foreign qualifications (except for medicine and allied courses). Its opinion as to legitimacy or recognition of any foreign qualification is not binding upon anyone, as it is neither a statutory body nor a part of the government. It is, in fact, a society registered under the societies act. In 1973, it was renamed as the "Association of Indian Universities" (AIU). The Association endeavors the following functions for the qualitative improvement of higher education which are discussed here below.

- It coordinates the activities of the member institutions.

- It helps to formulate common programmes and policies in the field of higher education.
- It serves as a bureau of information and to facilitate coordination, communication amongst universities.
- It acts as a liaison between the universities and the government.
- It promotes sports, culture and youth activities.
- It assesses the status of degrees or diplomas in India and abroad.
- It undertakes publication of material related to higher education.
- It publishes the weekly journal "University News" which carries a variety of articles covering different aspects of higher education. .
- It helps universities to obtain their autonomous character.
- It undertakes and facilitates conferences, seminars, workshops, lectures and research on higher education.

The membership of the AIU includes traditional Universities, open universities, agricultural universities, institutions of national importance and deemed to be universities. It is an important association which helps in qualitative improvement of higher education.

All India Council of Technical Education (AICTE)

The All India council of Technical Education (AICTE) was set up in 1957 at New Delhi in order to provide advice on the improvement of technical education. It was constituted by the representatives of Lok-sabha, different state governments, and other technical institutions. It has also a general body which has 60 members. The council undertakes planning, implementation, quality maintenance and execution of higher technical education.



The council has seven technical board and six different branches which are as follows:

- (a) Engineering and chemical Technology
- (b) Chemical Engineering and Chemical Technology
- (c) Textile Technology
- (d) Architecture and Regional Planning

(e) Applied Arts

(f) Commerce and Business Administrations

The various functions of AICTE in relation to improvement in Technical Education of India are as follows:

- The AICTE brings progress to technical education in the country.
- It makes planning and coordination of engineering management, pharmaceutical education and architecture educations.
- It makes assessment of quality control in technical education.
- It advises to government to establish technical education institutions.
- It provides recognition to technical institutes in the country.
- It gives financial aid to develop technical education.
- It organizes annual meeting in every year.
- It organizes conferences and discussions on different problems of technical education and determines new yardsticks for technical institutions.
- It conducts different training programmes on various branches of technical education.

Different branches of AICTE are as follows:

All those branches prepare curriculum and examination pattern for technical education in higher level and provide certificates to the successful candidates. The council also provides financial assistance to those meritorious students for higher studies in foreign countries. For the spread for technical education in each states a state Board of Technical Education has been opened under AICTE. Different Polytechnic institutes have been opened in the state for providing technical education in a progressive manner.

National council of teacher education (NCTE)

The National Council for Teacher Education, in its previous status since 1973, was an advisory body for the Central and State Governments on all matters pertaining to teacher education, with its Secretariat in the Department of Teacher Education of the National Council of Educational Research and Training (NCERT). Despite its commendable work in the academic fields, it could not perform essential regulatory functions, to ensure maintenance of standards in teacher education and preventing proliferation of substandard teacher education institutions. The National Policy on Education (NPE), 1986 and the Programme of Action thereunder, envisaged a National Council for Teacher Education with statutory status and necessary resources as a first step for overhauling the system of teacher education. The National Council for Teacher Education as a statutory body came into

existence in pursuance of the National Council of Teacher Education Act, 1993 on the 17th August, 1995.



The main objective of the NCTE is to achieve planned and coordinated development of the teacher education system throughout the country, the regulation and proper maintenance of Norms and Standards in the teacher education system and for matters connected therewith. The mandate given to the NCTE is very broad and covers the whole gamut of teacher education programmes including research and training of persons for equipping them to teach at pre-primary, primary, secondary and senior secondary stages in schools, and non-formal education, part-time education, adult education and distance (correspondence) education courses.

Council of Scientific and Industrial Research (CSIR):

The council of scientific and Industrial Research (CSIR) is an organization of the central Government. This council was formed by the approval of central Legislative Assembly in the year 1942. It is an autonomous organization. The council helps to provide opportunities for conducting research in the field of science and industry. The main aims functions of the council includes providing relevant data in field of science and industry after conducting research. Further it sponsors research programmes and projects in the field of science and industry. It also reviews the progress of scientific and industrial research and gives advice in this regard and utilize the research outcomes in the field of industrial growth. And undertakes publication and to assist publication of science related journals, scientific news and science magazines.



Besides the above functions, the council has also a general executive body. The prime minister acts as the president of this executive body and the union minister for science and Technology acts as the vice president. It has also an advisory board and the union Minister for the Department of science and Technology acts as the chairman of this Advisory Body. Now there are forty laboratories working in different states

under CSIR. The council is extending its research activities and taking steps in the field of preparation of medicines, chemicals, electronics instruments.

Indian Council of Social Science Research (ICSSR):

The Indian council of social science Research (ICSSR) was established by the Government of India in August 1969. It is an autonomous organization which provides opportunities for conducting research in social science. Its head office is situated at New Delhi.

The ICSSR has a governing council that consists of 26 members including the chairman and the member secretary among which the chairman and other 18 social scientists are nominated by the Government of India. The tenure of the chairman, member secretary and other nominees is generally of 3 years. The council plays an important role for qualitative improvement of higher education on behalf of the Government of India.

Functions of ICSSR covers promotion and coordination of social science research programmes and provides grants to institutions and individuals for research in social science. It indicates areas in which social science research is to be promoted and selects new areas of research problems. It gives financial supports to institutions, associations and journals engaged in social science research. It organizes training in research methodology and to provides guidelines for research. It develops and supports centers for documentation services and supply of data. It provides grants for minor and major research projects in the field for social sciences. It undertakes publication of journals and books in social science.



Besides the above functions, the governments of India on all matters pertaining to social science research is assisted and advised by the ICSSR. In order to promote social science research and its utilization, the government takes measures or steps from time to time. At present the council is providing assistance to 27 Research Institutes and 6 regional centers in different regions of India. It also provides maintenance and development grants to these research institutes. Another important activity of the council is the training of young social scientists by the research institutes through M. Phil and PH D. programmes, workshops and seminars. For the smooth running of various activities the council has different committees like Research project committee, Research survey committee, Publication committee, committee on documentation services, committee on research of SC/ST etc. Lastly, the council plays

a significant role in the field of social science research for bringing qualitative improvement in higher education.

Indian Council of Agricultural Research (ICAR)

The Indian council of Agricultural Research (ICAR) is an autonomous body situated at New Delhi, responsible for the organization and management of research in the field of agriculture. The minister for Agriculture is the president of the ICAR.



The Governing Body is the chief executive and decision making authority of the ICAR which is headed by the Director General. It is assisted by the standing Finance committee, Accreditation Board and Regional committee. It functions as the principal advisor to the Government of India in all matters concerning research and education in agriculture and other allied fields.

The following are the functions of ICAR:

- To promote and coordinate research in the field of agriculture, agro-forestry and fisheries.
- To promote application of research findings in agriculture and other allied sciences.
- To provide general information relating to agriculture, animal husbandry, fishery, agro-forestry through its publications and information system
- To promote application of new technology in the field of agriculture.
- To undertake and promote consultancy services in the field of education, research, training in agriculture, fishery, agro-forestry and other allied sciences.
- To disseminate new ideas and information relating to agriculture, agro-forestry etc.,
- To look into the problems relating to rural development concerning agriculture by keeping close liaison with ICSSR, CSIR, State Agricultural Universities etc.

Due to the above functions the ICAR becomes an apex scientific organization under the Department of Agricultural Research and Education of our country.

National Assessment and Accreditation Council (NAAC)

India has one of the largest and diverse education systems in the world. Privatization, widespread expansion, increased autonomy and introduction of Programmes in new and emerging areas have improved access to higher education. At the same time, it has also led to widespread concern on the quality and relevance of the higher education. To address these concerns, the National Policy on Education (NPE, 1986) and the Programme of Action (PoA, 1992) spelt out strategic plans for the policies, advocated the establishment of an independent National accreditation agency. Consequently, the National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous institution of the University Grants Commission (UGC) with its Head Quarter in Bengaluru. The mandate of NAAC as reflected in its vision statement is in making quality assurance an integral part of the functioning of Higher Education Institutions (HEIs).



The NAAC functions through its General Council (GC) and Executive Committee (EC) comprising educational administrators, policy makers and senior academicians from a cross-section of Indian higher education system. The Chairperson of the UGC is the President of the GC of the NAAC, the Chairperson of the EC is an eminent academician nominated by the President of GC (NAAC). The Director is

the academic and administrative head of NAAC and is the member-secretary of both the GC and the EC. In addition to the statutory bodies that steer its policies and core staff to support its activities NAAC is advised by the advisory and consultative committees constituted from time to time. The NAAC intrinsically works upon quality parameter of the institution in terms of a) Quality Initiatives, b) Quality Sustenance and c) Quality Enhancement. To ascertain these quality parameters the council welcomes the reflective facts and figures related to higher education institutional functioning.

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International Rankings of Indian Higher Education Institutions

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Abstract: India has one of the largest higher education systems in the world, next only to USA and China. Its famous institutions include AIIMS, IIT's and NIT's among others. These institutions and some other universities like Indian Institute of Science Bangalore, University of Mumbai and University of Delhi are now occupying places in the world rankings of the best institutions. But despite number of IITs, IIMs, Universities and other institutions of excellence, none of the Indian Institutions finds a place in the first 100 of the top ranking institutions of the world. This article reviews the status of India's higher education institutions, their international ranking in 2019 and the reforms to be taken to increase their international ranking.

Keywords: Higher education, new education policy, ranking of institutions.

1. INTRODUCTION

In India there is easy access to higher education as compared to most other countries; this has increased the enrolment of students dramatically transforming the overall learning outcomes. Also implementing the factors like effective use of technology, delinking educational qualifications from teaching eligibility and expanding capacity for doctoral students at research universities has made the teaching profession attractive. Some of the major factors that contributed to this growth and useful for envision the 2030 dream include:

- Evolution to a learner-centered paradigm of education
- Development of a differentiated university system with a formalized three-tiered structure
- Intensive use of latest technology
- Reforms in governance

Also due to sustained attention of government towards higher education, India is among top 5 countries globally in cited research output, with its universities in global top 200! But it is also a fact that despite number of IITs, IIMs, Universities, Law Schools and other institutions of excellence, none of the Indian Institutions finds a place in the first 100 of the top ranking institutions of the world (India 2009, India country, List of state universities 2011, statistics mhrd.gov.in).

2. RANKING OF INSTITUTIONS

2.1 International Ranking

There are several international ranking systems like The Times Higher Education World University Rankings and The QS World University Rankings which select the best universities of the world on the basis of several parameters. The key parameters are academic reputation, pedagogy, research citations, international faculty and students, knowledge transfer etc. In 2019 the top rankings are taken by American and UK universities. Also this year the Chinese universities have shown good results, with two Chinese universities occupying places in the first 30 of the international rankings according to QS World University Rankings and in the first 31 of the international rankings according to The Times Higher Education World University Rankings. These two universities are Tsinghua University and Peking University. China as a whole has shown improved results because of improvements in citation impact. Table 1 given below gives complete details about the ranking of Indian Institutions.

TABLE 1: International Rankings of Indian Institutions

S.No	International Ranking		
	Institution	The Times Higher Education World University Rankings	The QS Higher Education System Strength Rankings
1.	Indian Institute of Science Bangalore	251-300	170
2.	IIT Indore	351-400	-----
3	IIT Bombay	401-500	162
4	IIT Roorkee	401-500	381
5	JSS Academy of Higher Education and Research	401-500	-----
6	IIT Delhi	501-600	172

S.No	International	Ranking	
7	IIT Kanpur	501-600	283
8	IIT Kharagpur	501-600	295
9	Savitribai Phule Pune University	501-600	801-1000
10	Amrita Vishwa Vidyapeeth	601-800	801-1000
11	Banaras Hindu University	601-800	801-1000
12	University of Delhi	601-800	487
13	Indian Institute of Science Education and Research Pune	601-800	-----
14	IIT Bhuneshwar	601-800	-----
15	National Institute of Technology Gowahati	601-800	472
16	IIT Hyderabad	601-800	-----
17	IIT Madras	601-800	264
18	Jadavpur University	601-800	601-650
19	National Institute of Technology Rourkela	601-800	-----
20	Punjab University	601-800	-----

The Times Higher Education World University Rankings is a globally renowned ranking system. They select 1000 universities of the world on the basis of key factors like teaching, research, citations, industry income, knowledge transfer and international outlook and give the best results which are trusted worldwide. This year's list of the best universities in the world is led by two UK universities for the second time since 2018, the University of Oxford and the University of Cambridge followed by six American universities and again by a UK institution Imperial College London. As per the Times Higher Education Rankings 2019, the top ranked Indian institutions are IISC Bangalore (251-300), IIT Indore (351-400), IIT Bombay (401-500), IIT Roorkee (401-500), JSS Academy of Higher Education and

Research (401-500), IIT Delhi (501-600), IIT Kanpur (501-600), IIT Kharagpur (501-600), Savitribai Phule Pune University (501-600), Amrita Vishwa Vidyapeethan (601-800), Banaras Hindu University BHU (601-800), University of Delhi (601-800), Indian Institute of Science Education and Research Pune (601-800), IIT Bhuneshwar (601-800) and IIT Guwahati (601-800) (World University Rankings 2019).

The QS World University Rankings is another globally renowned higher education ranking system. Their ranking indicators are academic reputation, citations per faculty, employer reputation, international faculty and international students. This year's list of the best universities in the world is once again led by four American universities, followed by University of Oxford and University of Cambridge at 5th and 6th positions respectively. The top ranked Indian institutions as per the Quacquarelli Symonds (QS) System 2019 are IIT Bombay (162), IISc Bangalore (170), IIT Delhi (172), Indian Institute of Science Bangalore (190), IIT Madras (264), IIT Kanpur (283), IIT Kharagpur (295), IIT Roorkee (381), IIT Guwahati (472), University of Delhi (487), University of Hyderabad (591-600), Jadavpur University (601-650), Anna University 751-800, Jamia Millia Islamia (751-800), Manipal Academy of Higher Education (751-800), Aligarh Muslim University AMU (801-1000), Amity University 801-1000), Amrita Vishwa Vidyapeeth (801-1000) and Banaras Hindu University BHU (801-1000) (QS world university rankings 2019).

2.2 Analysis of Data

By analyzing the data we find that almost all the top ranked institutions of India which find a place in the international rankings (2019) are also at the top of national rankings (2018). But the alarming fact is that despite number of IITs, IIMs, Universities, Law Schools and other institutions of excellence, none of the Indian Institutions finds a place in the first 100 of the top ranking institutions of the world. While as none of the Indian Institutions finds a place in the first 200 of the top ranking institutions, according to the Times Higher Education Rankings 2019 but three universities find a place in the first 200 of the top ranking institutions according to the Quacquarelli Symonds (QS) System 2019. By comparison, the same three Indian Institutions found a place in the first 200 of the top ranking institutions in 2018 as well while as only two Indian institutions could find a place in the first 200 of the top ranking institutions in 2017. It is pertinent to mention here that although the first two Indian institutions i.e. IISc Bangalore and IIT Bombay have maintained their positions but their ranking points have gone down in 2019. But some other Indian Universities have improved their ranking, given the fact that before a decade none of the Indian Institutions could find a place in the first 200 of the top ranking institutions. It is ironical that while as Banaras Hindu University has maintained its ranking, the popular universities in India like the Aligarh Muslim University have gone down in the 2019 Times Higher Education Ranking, although its QS Ranking is unchanged.

Similarly Jamia Millia Islamia has maintained its 2019 Times Higher Education Ranking, although its QS Ranking has gone down. It is surprising that India's Premier research institutions like Tata Institute of Fundamental Research Mumbai and the newly created International Centre for Theoretical Sciences (ICTS-TIFR) Bangalore do not find a place in the rankings. Also Jawaharlal Nehru University does not find a place in the rankings. Having a look at the data we find that according to Times Higher Education Rankings 2018, while as the American and European universities get highest scores in teaching, research, citations and international outlook, the Indian Universities get almost good scores in teaching but very low scores in research, citations and international outlook. So these are the factors which need to be given due attention by Universities and policy makers in India so that Indian Universities improve their rankings in future.

Again according to the Quacquarelli Symonds (QS) System 2019, the foreign universities get better ranks because of the parameters like Academic reputation, Employer reputation, International faculty and International students. While as total students in Oxford University, according to QS 2019 is 20631, the top ranked Indian Institution (QS System), University of Bombay has only 9651 students. Therefore the enrolment of students has to be given attention by the Universities and Policy makers in India. This is the reason that this fact was given due attention in the 11th five year plan and again emphasis was laid in 12th five year plan to increase the student enrolment in Indian higher education institutions. It is a matter of fact that the GER (gross enrollment ratio) at the beginning of 11th five year plan, was lower than 20%, which is indeed the ratio today. Keeping this fact in mind, in 12th five year plan, the policy has been to provide Higher Education at the doorsteps, which has shown improvement in the overall gross enrollment. The 12th five year Plan (2012-2017) adopts a holistic approach to the issues of expansion, equity and excellence so that expansion is not just about accommodating ever larger numbers of students, but also to provide diverse choices of subjects, levels and institutions ensuring a minimum standard of quality in academics and providing the opportunity to do higher education to all sections of society, particularly the disadvantaged. Due to continuous government efforts, tertiary-level enrollments in India have been growing at break-neck speed in recent years, from 16.6 million in 2006 to 26 million in 2011, thereby maintaining it on track to gather its end-of-decade 30 percent GER goal.

3. POSSIBLE REASONS FOR LOW RANKING

Certainly India has not only low quality higher institutions. But there are certainly barriers to excellence. There are some top class research centres in India like Tata Institute of Fundamental Research but these research centres are often cutoff from the undergraduates who will go onto to become future scientists as well as from industries which could be a source of new ideas. Further, administrative organizations are of a governmental nature and often disperse the energy of

driven scientists. Institutional compartmentalization and lack of chances to interact indicates that we do not have much of the "transdisciplinary science" that is required to attack complex questions. For an example, the lack of the biological sciences in IITs for a very long time has led to a total detach between engineering and the life sciences, which is a glaring gap, as we now belatedly recognize.

The human creativity can be enhanced by inviting scientists from other institutions of the world so that our scientists have interactions with. This can be done by our premier research institutes. In particular, such centres can also be a venue for the large Indian scientific diaspora to meaningfully engage in the long term with Indian science (Mehraj-Ud-Din 1998).

This will improve the rankings of Indian Institutions. The newly established International Centre for Theoretical Sciences (ICTS-TIFR) in Bengaluru is all set to play this catalytic role of a nodal centre in our scientific community and realize the potential of Indian science.

4. NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)

As a first bold step towards improving the quality of education, the country has established external quality assurance agencies in the 1990s to assure external quality. In 1994, the Govt. established NAAC, for accreditation and assessment of higher educational institutions in India. The method of accreditation and assessment adopted by NAAC, is based on the following criteria.

Criterion I: Curricular Aspects

Criterion II: Teaching – Learning and Evaluation

Criterion III: Research. Consultancy and Extension

Criterion IV: Infrastructure and Learning Resources

Criterion V: Student Support and Progression

Criterion VI: Governance, Leadership and Management

Criterion VII: Innovations and Best Practices

The idea of starting accreditation agencies in India was to improve the standards and excellence of higher education. To a great extent this initiative was successful and improved the status of Higher Education in India. For the first time India's Higher Education institutions figured in international rankings, although at a lower level.

5. REFORMS

Despite rapid strides it is also a fact that although the access to higher education has increased, the creativity has not improved. We are not producing Nobel Prize winners in sciences, thinkers and scholars of international repute. The need for reforms is felt badly now (Barbara 2017, Gibbon 1994, Preeti 2017). Establishing nodal centres of research to attract best students to science is the road to excellence in Higher Education, thus increasing the overall ranking of

India's Higher Education Institutions. This will give a boost to creativity, inquisitiveness, innovation, collaboration and interaction, leading to interdisciplinary approach in Higher Education (Hanife, 2017). To take care of these changing dynamics, the Government has formulated a New Education Policy to meet the changing dynamics of the population's requirement with regard to quality education, innovation and research, aspires to make India a superpower in knowledge by equipping its students with essential skills and knowledge and to eradicate the shortage of manpower in the field of science, technology, academics and industry (MHRD 1993).

5.1 Academic Reforms

Keeping pace with changing times, the 12th Five-Year Plan also discusses the need for a shift from an "input-centric and credential-focused" approach to a more "learner-centric" approach. For this a new scheme has been adopted by the Ministry of Human Resource Development's 2013 Rashtriya Uchchattar Shiksha Abhiyan (RUSA) .

Details of 12th Plan reform initiatives in the higher education space are outlined in MHRD's RUSA policy document. The RUSA reforms are intended primarily at increasing funding for the state university system where 94 percent of university students (state universities, private and public affiliated colleges) are enrolled. Currently, state universities are so heavily dependent on the affiliation fees they receive from affiliated colleges that they function primarily as administrative and exam conducting centers rather than multi-dimensional institutions to promote teaching, research and faculty development (Sudhir 2017, Zaidatol 2017).

5.2 The Building Blocks of the RUSA Reforms

The building blocks on which RUSA's reforms are based are listed below

- 1. Semester System**
- 2. Choice Based Credit System**
- 3. Curriculum Development**
- 4. New Admissions Procedure**
- 5. Examination Reforms**

In such a structure, quality enhancement can be brought about by reducing the burden at the university level and giving greater autonomy and accountability to the constituents through affiliation reforms

6. CONCLUSION

Over the past two decades the higher education institutions in India have become increasingly committed to improve the standards of education and as such have opted for assessment and accreditation by the national level accreditation agencies. This has definitely led to overall improvement in quality education, competitiveness and a better research environment. The result is that today some of the premier Indian Institutions

find a place in the top 200 best institutions of the world. While as none of the Indian Institutions finds a place in the first 200 of the top ranking institutions, according to the Times Higher Education Rankings 2019 but three universities find a place in the first 200 of the top ranking institutions according to the Quacquarelli Symonds (QS) System 2019. By comparison, only two Indian institutions could find a place in the first 200 of the top ranking institutions in 2017. Other Indian Universities have also shown improvement in their ranking, given the fact that before a decade none of the Indian Institutions could find a place in the first 200 of the top ranking institutions. It shows the country's investments in higher education have started bearing fruit and bolstered the results year by year. Again academic reforms in India are being introduced with a goal of increasing quality standards in tandem with initiatives designed to broaden access. Current reform initiatives are focused at the state level, where over 90 percent of the nation i.e. around 30 million higher-education students are enrolled.

With increased funding of traditionally underfunded state universities and colleges, the government planning to implement a raft of reforms that include greater institutional autonomy, a new credit accumulation and transfer system, new assessments, student-focused syllabi and regular curriculum revisions. These changes are intended at leveraging India's huge demographic benefit by producing graduates that are considerably better prepared to meet the needs of India's rapidly growing economy. Implementation of the reforms is in progress. Also reforms plan for the assessment of student knowledge, are aimed at lessening the intense focus and cramming that currently occurs at the end of each academic year. This is to be achieved by moving toward a system of continuous internal evaluation that would be complemented by more traditional end-of-semester external evaluation.

At the beginning of 11th five-year plan (2007-2012) India's GER was significantly lower than today's 20 percent, at just 12.3 percent. Clearly, significant progress has been made with regards to increasing access to higher studies. Noting this success, the 12th five year plan (2012-2017) stresses to continue improving access to higher education, while also stressing the importance of doing it in conjunction with improvements in quality and social equity. Due to continuous government efforts, tertiary-level enrollments in India have been growing continuously in recent years, from 16.6 million in 2006 to 26 million in 2011, thereby maintaining it on track to find its end-of-decade 30 percent GER goal. With increasing student enrollment in higher education institutions, the prospectus of better international rankings for Indian institutions has brightened.

With the dire need to set up top notch nodal centres for research, the Govt. has taken a bold step of opening International Centre for Theoretical Sciences (ICTS-TIFR) in Bengaluru. This will go a long way in improving academic and research standards in our universities and colleges by

promoting collaborations, interactions and interdisciplinary programs. Surely this will fill the missing link and will lead to improved rankings of India's Higher Education Institutions.

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Problems in Academic and Administrative Sphere Affecting Quality of Higher Education in India

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Abstract: *Quality assurance has become an important component in higher education. Talking about quality assurance in higher education in a society which is so diverse in nature can be very difficult. Different people come with different ideologies and opinions regarding how one can ensure quality in higher education. The quality assurance for a student of humanities can be totally different for the student of science and commerce background. There is no single answer to this dilemma. This paper intends to answer various questions regarding the same. What is the idea of higher education and university? What does the term “quality” means in the higher education? Further the paper will briefly discuss the means of quality assurances? Lastly, the paper discusses the issues and challenges while assuring quality. Based on the analysis, the paper concludes with some alternative and suggestions.*

Keywords: *Quality assurance, Higher education, University, Issues, Challenges*

1. INTRODUCTION

Last year, India witnessed a gigantic student's march from Mandi House to parliament Street in defense of public funded higher education accusing the ruling party for its attempts to destroy the higher education institutions. Thousands of students associations gathered together in Delhi regarding the same. All of these students were attempting to preserve the quality of education with their legit demands.

It must however be understood that not necessarily these demands can be seen as the only demands to assure quality of education. The demands presented by the students in the protests are some of the parameters. Therefore, it is essential to define higher education and various parameters associated to assure quality of higher education in order to understand the gravity of the issue. Also, only once we define these parameters one can suggest remedies and solutions ahead.

Idea of university and Higher Education

If we look at present scenario of higher education, we will say that it mostly happens in university space. University space is vast and diverse in nature, in terms of subject which are being offered, in terms of population which are there in it, in terms of knowledge they produce. “A university is a place where new

ideas germinate, strike roots and grow tall and sturdy. It is unique space, which covers the entire universe of knowledge. It is a space where creative minds converse, interact with each other and construct visions of new realities. Established notion of truth are challenged in the pursuit of knowledge.” (Pal, 2009)

For many of us it becomes the last stage of formal education, and which also pave the way for desired jobs. It not just only help in obtaining jobs but also help in shaping the way in which we aspire to live our life. It is a place where students learn from their respective disciplines and participate in respective activities or also through engaging with one another in different activities. University is also space which allows diversity and individuality at the same time. In university, the diversity create space where people from different context get converse not only physically but also in term of the ways in which they live. I mean to say we share culture in university space. Higher education in university space has also been capable of challenging the preexisting social barriers and enables social mobility in one's society. It is also seen as the advanced learning of a particular subject, area or field.

2. QUALITY

Quality cannot be defined in isolation. Hence, in order to define “quality” one must understand the context. Every context demands a different type of quality. National Assessment and Accreditation Council (NAAC) even affirms by quoting that, “the meaning of quality assurance may vary depending on the field of activity”.

Quality should not merely be defined as good or better. Rather the nature of quality must also be ensured. For pragmatist, quality can be defined as non-superiority or superiority of something, whereas capitalist define it is a product which can satisfy the consumer needs and expectations. If it fails to satisfy the need of the customer, then the product or higher education (in our context) can be categorized as “bad”. Quality can be measured in its consistency of its nature. Measuring the quality of higher education would therefore be fruitless until seen in due context and with a specific desired approach.

Why is quality so important?

The world in which we are living is so competitive in nature that it becomes so inevitable to focus on ‘quality’. To produce

a good product, producers need to have the best qualitative resources, so that maximum utilization can take place. There is a continuous fear attached to quality, which is that producers should maintain their standards if they want to sell their products into the market. They have to keep a check on their products and also on their expiry dates. Same goes with the higher education. The needs of the present generations are evolving. This demands a change in the patterns of what and how a student must be education. Now since the syllabus itself has changed, one must also evolve the parameters to ensure quality. Therefore now it is important to define quality in higher education

What does the term quality means in higher education?

Education gets enriched when it involves research in it. The role of university is not just to provide knowledge to students but also give them chance to create their own knowledge. Research does provide that space, to go through detailed enquiry of subject which will help in examining existing knowledge and develop a better understanding of that knowledge.

University is also a place where research and teaching can go together and can provide important pillars in knowledge creation. Enhancement of quality in higher education does require resources. Here resources include the infrastructures, funding, availability of mentors and guidance etc. Since research and development are not primary concerns in primary or secondary education, therefore these parameters are specific to higher education alone. Now that we know what quality for higher education is, it is important to understand how one can assure it for the students availing it.

3. QUALITY ASSURANCE

Quality assurance refers to the policies, attitudes, actions and procedures necessary to ensure that quality is being maintained and enhanced. Quality assurance in higher education is achieving a huge amount of importance around the world. Different countries deal with different activities to keep a check on their quality enhancement. The year 1980's saw the shifts in educational system, we faced criticism that the standards of higher education are decreasing so after this in 1986 the National Policy on Education was adopted by the government which focuses on the quality of higher education in India. one needs to have a body which can do assessment and accreditation and can make strategies and can also contribute in the development of the nation, so for the same; NAAC was established in 1994 as the apex body to accredit institutions of higher education. The methodology which NAAC adopted was determined on self-study and peer-review. The primary objective of NAAC is to assess and accredit institutions of higher learning with an objective of helping them to work continuously to improve the quality of education. The aim is to provide universities with the best evidence for informing their focus and models for quality improvement.

In order to assure this quality, India has taken a lot of measures. However, even till date, some problems and issues continue.

4. PROBLEMS AND ISSUES:

- **Question of access:** When we look at empirical data of Gross Enrolment Ratio (GER) in Higher education in India, it is 24.5% for the age group of 18-23 years. GER for male population is 25.4% and for females, it is 23.5%. If we look at this figure among different social group, it is 19.9% for scheduled caste and 14.2% for scheduled tribe as compared to the national GER of 24.5% (AISHE 2015-16, pg. 11). The number of students who are entering into higher education is less in comparison to total population who are in this age group (18-23 years) so this population as well need to be taken care off. The educational needs and aspirations should be fulfilled by the stakeholders to make some assurance in quality of higher education.

We are saying this because at present, India has about 304 Universities, including 62 Deemed Universities, 11 open Universities, and 15, 000 colleges, incorporating approximately 10 million students and 0.5 million teachers. But if we look at the condition of these higher education institutes, there are very less number of colleges and universities who are being able to provide adequate resources to the students and most of these institutions are way behind in fulfilling the needs of the students as well as of teachers.

- **Autonomy of university:** In recent time, there has been a debate around the autonomy of university. Many of the university asking for independent autonomy from the central regulatory body of higher education e.g. UGC. Usually the term autonomy is associated with two kinds, administrative autonomy, and financial autonomy. Administrative autonomy gives the freedom to control their own administrative work like hiring of teaching and non-teaching staffs and to make arrangements for their teaching and research without the interference of government regulatory body. So there are some university who are way ahead and at good condition can do affirmative changes in their universities and will not need to get stuck in proceedings of the government regulatory bodies to make changes in university. Whereas financial autonomy refers to university being able to self-finance themselves. So on 20th march 2018, the ruling government (NDA) gave autonomy to 52 universities and eight colleges which might has an opposite impact on the freedom of students who are pursuing for higher education. After attaining autonomy, these universities will be required to do self-financing. Now the question arises that now suddenly from where the higher education institutions will draw money which were primarily dependent on state for funds? The first and easy way for them is to increase the fee amount which they charge from students. This will further make difficult for students to continue or initiate their education because not

everyone can afford this expensive education. The next problem lie on the professors or administrative part. Apart from teaching and managing they are asked to initiate programs which will increase their fund. This commercialization of education is a serious problem that we all are facing at this time. So this financial autonomy is not freedom for the students and teachers but this notion of autonomy is nothing but relinquishment.

- **Absence of research in Higher Education Institute:** As many educationist and philosophers have believed that research in higher education plays crucial role in knowledge formation. Research goes through thorough study of subject and create possibility to enhance existing knowledge. It is being argued that teaching and research should not happen separately but rather together because university's role is not just to impart knowledge among students but also give students opportunities to create their own knowledge. But if we look into the reality in university and institutes outside the university space, the research based education is not available in most of these institutions. One the main reason behind it is the inadequate infrastructural facilities in university. The improper functioning of library, computer labs and less availability of bookshinders the research process. In such a situation it will be hard to encourage research. Second another important reason behind it is 'faculty crunch'. There is not enough faculties to accommodate every required students in research. And if it is done without meeting of faculties' requirement, it will be so much burden on faculty to handle this much work.

5. SUGGESTIONS

Assuring quality in higher education is holistic approach where proper relationship between different stakeholders needs to be established. There are few suggestions regarding the problems which we have mentioned in earlier section.

- **Issue regarding autonomy of universities:** When we talk about autonomy of university, it is time to make some changes in regulations regarding the same. There must be some relaxation for universities who are producing good research work. This will help in further reducing the burden from central regulatory bodies. For the autonomous university it gets easier to make innovations and up-gradations as per the demand and requirements. Like in many universities now it is necessary change which we think is difficult to change if they are under regulatory bodies because of the time taken in the institutional process. But there must be financial support of government to university. Because there is fear that the burden of self-financing which recent govt. is suggesting will just lead to commercialization of education. And this may further leads to financial crisis among the students.
- **Research based knowledge:** As we argued above about the importance of research education in higher education,

so there must be an effort to ensure research education in higher educational institutes. There must be proper management in research education so that students should fall back in pursuing it.

We would like share few more suggestions apart from problems which we have mentioned above.

- **Bridge the gap between student and teacher:** We need a platform where we can bridge the gap between student and teacher. In many colleges the gap between student and teacher is so wide that students even get hesitant in talking with their teachers. So in a environment where there is fear and hesitation how a quality learning can takes place. It becomes challenging for both student as well as for teacher.
- **Interdisciplinary learning:** university should provide a space where interdisciplinary learning can take place freely. Sharing of knowledge with different disciplines will provide a better understanding and will be very beneficial for the student. Which further will help in developing insights and questions. These questions carries real learning.
- **Improvement in Information and communication technology:** most of the higher education institutes that we have come across lacked this facility. In a university space where research is one of the important element this phenomena should not be ignored by the university as well as by the state.

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India Yet to Achieve Higher Education Level to Stand Globally

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Abstract: *India had a comparatively extensive and well-developed educational system in the past, but eventually after coming of British, the Education system was shifted towards European way. In present time while the desired levels of research and internationalization of Indian campuses remain weak points, Indian higher education also suffers from a lack of funds, and its largely linear model with very little focus on specialization. Most top Indian schools slipped in their rankings in Asia, with the exception of Indian Institute of Technology-Bombay, which ranked 34th in the continent. With well-planned expansion and a student-centric learning-driven model of education, India has not only bettered its enrolment numbers but has dramatically enhanced its learning outcomes.*

Development of any nation solely depends on the quality of human resources; and good human resource is produced through quality education. Education provides people with an opportunity to reflect on the social, cultural, moral, economic, and spiritual issues and contributes towards the development through propagation of specialized knowledge and skills. Ancient history records that India has developed well system of higher education with the modern university process. Takshashila, Nalanda, vikramasila, the prominent universities in the world were running in ancient India during 6th century B.C and 4th and 5th centuries AD respectively. During medieval period most of the universities disappeared from the scene and the muslims established their own institutions of higher learning which were known as Madarasas. Unfortunately these traditions did not survive and the modern higher educational institutions were established during British period. After the recommendations of wood's Dispatch, 1854, modern type of universities was established in the model of the London University. The earliest of these were the universities of Bombay, Calcutta and Madras-all founded in 1857, which were set up under British rule.

The Government of India appointed University education commission under the Chairmanship of Dr. Radhakrishnan in November 1948. The commission made a number of recommendations on various aspects of higher education and submitted its report in August 1949.

With 822 universities and over 51, 000 colleges, Indian higher education suffers from a dual problem—quality and quantity.

Unlike the school sector, where access is almost universal, the gross enrolment ratio (GER) in higher education is 24.5—meaning out of every 100 youths eligible for higher education, less than 25 are pursuing tertiary education.

People in India face great difficulty to reach the higher levels in the current education system. As per National Sample Survey Organization data, in the FY 2007-08, the unemployment rate was 18.10% for youth with education up to secondary level. Whereas unemployment rate for youth with education up to primary level was only 11.60%. The government should take emphasis on allocation of higher education and improve the students. While the desired levels of research and internationalization of Indian campuses remain weak points, Indian higher education also suffers from a lack of funds, and its largely linear model with very little focus on specialization. Both experts and academics feel Indian higher education is tilted towards social sciences.

On the regulatory front too, the country has a poor record with both the University Grants Commission (UGC) and All India Council for Higher Education (AICTE) run PhD programme and a mere 33% colleges run postgraduate-level programme. At the undergraduate level, the highest number (40%) of students are enrolled in arts/humanities/social sciences, followed by science (16%), engineering and technology (15.6%) and commerce (14.1%), according to human resource development (HRD) ministry data. China, for instance, has been funding nine of its top universities (called C9) to make them climb the global league table, and it has been quite successful. Tsinghua University, part of the C9, has a global rank of 25 and is placed sixth in Asia. In contrast, IIT-Delhi, placed at 172 Technical Education (AICTE) being seen more as controllers of education than facilitators.

With well-planned expansion and a student-centric learning-driven model of education, India has not only bettered its enrolment numbers but has dramatically enhanced its learning outcomes.

A differentiated three-tiered university system – where each tier has a distinct strategic objective – has enabled universities to build on their strengths and cater across different categories of educational needs.

Further, with the effective use of technology, India has been able to resolve the longstanding tension between excellence and equity.

While it is important to address the existing shortcomings in the higher education system, it is more important to move towards a bold and aspirational vision.

India has also undertaken large-scale reforms to better faculty-student ratios by making teaching an attractive career path, expanding capacity for doctoral students at research universities and delinking educational qualifications from teaching eligibility.

The Government of India has initiated major reforms in the education sector to improve the quality and access to education. Aimed at expanding access to quality education, new premier higher education institutions have been opened across the country, marking the highest ever such expansion in the history after Independence.

SWAYAM MOOCs portal (Study Webs of Active learning for Young Aspiring Mind) is an indigenous MOOCs portal that provides high quality education - anyone, anytime, anywhere at no cost - has been made operational. The portal has courses by the best teachers in the country and offers video lectures, e-reading material, discussion forum and assessment system - resulting in award of credits to the successful learners. So far, more than 1000 courses are made available and more than 33 lakh users are registered in this forum. Upto 20 % credit transfer into the academic record of students, is allowed now, for the courses taken on the SWAYAM portal.

To reach high quality educational content to the most backward areas using satellite communication, 32 DTH channels have been made functional, under SWAYAM Prabha programme. These channels air 4 hours of new content every day.

The initiative of National Digital Library (NDL) is a virtual repository of learning resources with a single window search facility. It has already brought together 15 million digital books and journals and 31 lakh learners are using this facility. It supports all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently abled learners.

Unnat Bharat Abhiyan (UBA) is a new initiative to make use of the knowledge base in the higher educational institutions for plugging technology gaps in the rural areas. In this year, 750 institutions are being selected on challenge mode. This is expected to enrich rural India by way of customising existing technology as per local needs and also by improving the implementation of existing government schemes.

Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMNMTT) scheme has been launched in Dec, 2014, to address the issues of supply of qualified teachers, attracting talent into teaching profession, raising the quality teaching in schools and colleges.

Recently, the Government has constituted a Committee to draft National Education Policy under the Chairmanship of eminent

scientist Dr. K. Kasturirangan which is expected to submit its report by 31st March, 2018.

Swachh Bharat programme has been conceived by Hon'ble PM to promote mutual understanding between States & UTs in India which have diverse cultures, traditions, languages etc., through a process of sustained mutual engagement between the people. All States and UTs are paired with each other for a period of one year, after which the pairing would change. The objective is to break the inhibitions arising from diversity in culture through participative appreciation and engagement by people so that a spirit of oneness is created in the process for the nation.

Under Swachh Bharat programme the Department recognised the huge role that has to be played by HEIs in promoting Swachhata in the form of an attitude of zero tolerance to anything unhygienic. It has initiated Swachhata Rankings of Higher Educational Institutions and Swachhata Action Plans have been prepared.

Global Initiative of Academic Networks (GIAN) is an initiative launched on 30th November 2015 to garner best international knowledge and experience into the country's higher education so as to enable Indian students & faculty to interact with best academic and industry experts from across the world. GIAN courses are short duration courses and as on date, 1075 courses have been conducted, in which more than 40, 000 students gained enriched academic inputs and knowledge. These courses are also video recorded for subsequent use and some are also telecast live, depending upon the available infrastructure. Government has embarked on building 20 Institutions of higher learning - 10 public and 10 private institutions as "Institutions of Eminence" (IoE), so that they are related among the global best institutions. These institutions to be declared in April, 2018, will have complete academic and administrative freedom and the public institutions will be given 1000 crore fund in next 3 years.

The Uchchatar Avishkar Yojana (UAY) has been launched to promote industry specific need-based research so as to keep up the competitiveness of Indian industry in the global market. It is proposed to invest Rs. 250 crores every year on identified projects. The Industry is expected to contribute 25 % of the project cost.

Prime Minister Research Fellows (PMRF) scheme is launched to support 1000 bright undergraduate students every year, for direct admission in the research programmes in the reputed institutions like IISc, IITs. The fellowship carries a lot of social recognition and it ranges from Rs 70, 000 to 80, 000 per month for 5 year period.

Smart India Hackathon initiative is to promote innovation in the students by encouraging out of the box solutions for common problems faced by the society at large. In the first edition held in 2017, more than 40, 000 students have participated to solve more than 600 problems.

Under the Technical Education Quality Improvement Programme Phase III (TEQUIP-III) focus has been given to the backward States in central tribal belt and north-eastern region. Under this Rs. 2, 600 Cr would be spent for improving the quality of teaching and research in the engineering institutions.

With a view to promoting autonomy for the premier institutions, the IIM Act has declared them as Institutes of National Importance and gave complete autonomy for deciding their administrative and academic matters, without any Govt interference.

We strongly believe that a stratified three tiered structure that enables seamless vertical and horizontal mobility of students would be able to create the desired intellectual, economic and social value. The implementation framework suggests the student at the center stage to foster innovation and choice, an ICT architecture that will increase access, equity and quality, and a transparent governance framework that will enable autonomy and self –regulation. A framework for governance has been detailed in the addendum document which proposes a mechanism based on outcomes and strong institutional accountability, clearly delineating the role and responsibilities of the government as well as public and private higher education institutions. Government and institutions will need to adopt a transformational and innovative approach to make India's HE system globally relevant and competitive. Promote collaborations between top-tier international institutions and Indian higher education institutions and promote the "mentor model" for quality academic research

Establish linkages between national research centers/research laboratories and centers of excellence in top universities to promote collaborative research, Provide meritocratic and equal access to research grants by public and private institutions Engage industry players to provide funding, mentor research projects and facilitate industrial visits., Aim to be ranked among the top 5 countries in terms of the number of PhDs by 2030., Incentivize companies through tax breaks to set-up R&D facilities on higher education campuses. Further, all research related grants should be 200% tax deductible.

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Quality Assurance in Technical Higher Education in India

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Abstract: India has 6, 214 engineering and technology institutions which are enrolling 2.9 million students. Around 1.5 million engineers are released into the job market every year. But the dismal state of higher education in India ensures that they simply do not have adequate skills to be employed. Engineering education in India has been facing considerable challenges in regard to good teaching and knowledge deployment. Therefore demands new teaching methods and learning approaches thus must be developed in the field. The present review explores the major issues plaguing unemployability of Indian engineer's .Graduates are collecting their degrees despite not being skilled enough to be productive part of the Indian economy. With the advent of new technologies and tools, artificial intelligence, it is also vital to study the effectiveness of teaching curriculum; therefore, the review is intended to demarcate the factors which can be used to analyze the quality assurance of technical education in India.

Keywords: Knowledge Deployment, un employability, Artificial intelligence

1. INTRODUCTION

Engineering is the application of science and technology in order to design, build and maintain structure, machine and devices.[1] The key purposes of engineering institutions are to advance the frontiers of knowledge, integrate new technologies from the laboratory to society, to offer a rigorous education, to train students, to become qualified engineers and the society leaders. It also prepares graduates to lead fulfilling professional lives, participate in lifelong learning, and assume roles as contributing members of society[2]. The effectiveness of higher education institutions is reliant on the quality of teaching. At higher education level, it is expected that students will deliver their own motivation and discipline, and will utilize their already developed cognitive abilities to grasp the instructions provided by teachers. According to the HRD ministry, 1.5 million engineers are released into the job market every year. But the somber state of higher education in India ensures that they simply do not have adequate skills to be employed. This has more serious implication from other perspective also. This may cause serious instability in the economic and social conditions in the country, along with wide scale dissatisfaction and disillusionment .Though there is quantifiable increase in number of universities, colleges and

programmes but the lack of quality education persists. Profit-hungry managements, lack of skill education, resplendent corruption, focus on rote-learning methods, and shortage of faculty (both in quantity and quality), non-updation of syllabus on timely basis, are the major issues plaguing higher education. Graduates are collecting their degrees despite not being skilled enough to be a productive part of the Indian economy.

2. LITERATURE REVIEW

The term quality assurance in higher education is increasingly used to denote the practices whereby academic standards, that is, the level of academic achievement attained by higher education graduates, are maintained and improved. This definition of academic quality is synonym to academic standards and is consistent with the emerging focus in higher education policies on student learning outcomes - the specific levels of knowledge, skills, and abilities that students achieve as a consequence of their engagement in a particular education Program me .A useful distinction is drawn between internal and external academic quality assurance. Internal quality assurance refers to those policies and practices whereby academic institutions themselves monitor and improve the quality of their education provision, while external quality assurance refers to supra-institutional policies and practices whereby the quality of higher education institutions and programs are assured. Individual universities have always possessed policies and practices designed to assure the quality of education, but academic institutions have also always operated within a national policy framework designed by the state to assure academic standards. India has the third largest higher education system in the world, after the US and China, according to the World Bank. India falls behind Quality improvement in education system is mainly related to the teaching, evaluation techniques, results and placements of the institution. National Assessment and Accreditation Council (NAAC), formed under the aegis of University Grants Commission (UGC) has implemented new methodology of evaluation of educational institutions in India. The new dimensions of "Quality Measure" as proposed by the NAAC involve continuous process of assessment of HEIs. The stakeholders in Higher Education play a vital role in the assessment process of the institution. Several Governmental bodies like University Grants Commission and National Assessment and Accreditation Council (NAAC) established as

an autonomous body with the objectives of assessment of the Higher Education Institutions in the country assesses and accredits [3][4] HEIs by studying and analyzing various parameters towards the quality measures. UGC and NAAC have played a vital role in streamlining the Quality HEIs. The process has changed the mind set of all stakeholders towards quality and its sustenance and has involved them to contribute for its achievement. Indian higher education is in need of radical reforms. A focus on enforcing higher standards of transparency, strengthening of the vocational and doctoral education pipeline, and professionalization of the sector through stronger institutional responsibility would help in reprioritizing efforts and working around the complexities. The rise of IT sector and engineering education in India has boxed students into linear path without giving them a chance to explore and discover their passions.

3. PRESENT SCENARIO

As of 2016, India has 799 universities, with a break up of 44 central universities, 540 state universities, 122 deemed universities, 90 private universities, 5 institutions established and functioning under the State Act, and 75 Institutes of National Importance which include AIIMS, IITs, IEST and NITs among others. Other institutions include 39, 071 colleges as Government Degree Colleges and Private Degree Colleges, Colleges may be Autonomous, i.e. empowered to examine their own degrees, up to PhD level in some cases, or non-autonomous, in which case their examinations are under the supervision of the university to which they are affiliated; in either case, however, degrees are awarded in the name of the university rather than the college. Some institutions of India, such as the Indian Institutes of Technology (IITs), Indian Institute of Engineering Science and Technology (IEST), National Institutes of Technology (NITs), Indian Institute of Science, Indian Institute of Science Education and Research(IISER), have been globally acclaimed for their standard of education. The IITs enroll about 8000 students annually and the alumni have contributed to both the growth of the private sector and the public sectors of India. But the flipside is that 80% of engineers in India are unfit to take up any job in the knowledge economy. Indian engineers lack the relevant digital skills including the advanced tech skills like artificial intelligence, machine learning, data science and wireless technologies among others that the companies require. Only 3.84% of the engineers have the technical, cognitive and language skills required for software-related jobs in start-ups. Additionally, a mere 3% of the engineers have new-age technological skills in areas like Artificial Intelligence, Machine Learning, Data Science and Mobile Development.

The average employability percentage for new-age jobs is 1.7%. (According to 2019 annual report titled “National Employability Report: Engineers” by Aspiring minds)

Engineering education that is largely theory-based, we can say micro-interventions have helped create isolated pockets of

competence, but they do little for higher education or the larger economy as a whole.

4. POINT OF DIFFERENCE

Though there are numerous institutions all across India which provide engineering degree, the IIT tag is quite reputed as the highest standard of education in India for engineering. IIT is a group of engineering institutes, 23 in number, as of 2018. Some key differences between IITs and other engineering colleges.

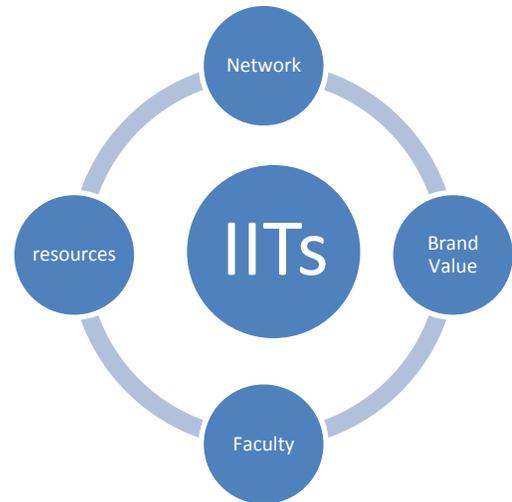


Fig. 1. Point of difference

- **Resources**

Resources here primarily are the funds that the institute amasses. Indian Institute of Technology has been known to have an annual budget that ranges from 70 to 100 Cr excluding the personal grants. Whereas most of the engineering colleges function at about half this number in terms of funds.

- **Network**

The IITs have 23 colleges under their umbrella, spread all across this country. They all function individually and have their own governing bodies. However, they have a network among themselves through which information and resources keep flowing between different institutes. There are organizations that have also created a network of two or more institutes like the IIIT institutes, but not at a scale that IIT has been able to achieve.

The hasty expansion has however been criticized as it has resulted in a major difference in the caliber of the students accepted, and in turn, there is a difference in the quality of engineers produced. It has also resulted in a faculty shortage and a lack of a collective vision for all the 23 IITs.

- **Entrance Examination and Counseling**

To join a reputed engineering college in India, the exam to be given is Joint Entrance Examination (JEE) which is conducted by the Central Board of Secondary Education (CBSE) around

the month of April. After JEE Mains, which is the first paper, the top tier scorers get to write the JEE Advanced paper in order to apply for any one of the 23 IIT's.

The branch they get offered is solely based on their rank even if the person has no particular affinity towards the subject. This is a stark contrast to the counseling procedure of foreign universities where they actually look at the qualities of the individual and then, decide on a field which they would excel and most importantly, are interested in.

Other colleges in India either get their students from similar competitive exams but at a lower difficulty level.

• **Brand Value**

IIT has had a very impressive record of placements. Only a few private universities like BITs and government universities like IITs are at par with IITs with respect to the number of companies coming in and the placement ratio of students. Many reputed companies prefer the IIT tag over as they are known for producing quality students.

• **Faculty**

The IITs are known to selectively recruit experts in their various fields. The teachers that are selected are seasoned professionals who are known for their extensive research work as well as practical knowledge and have published papers in scientific journals

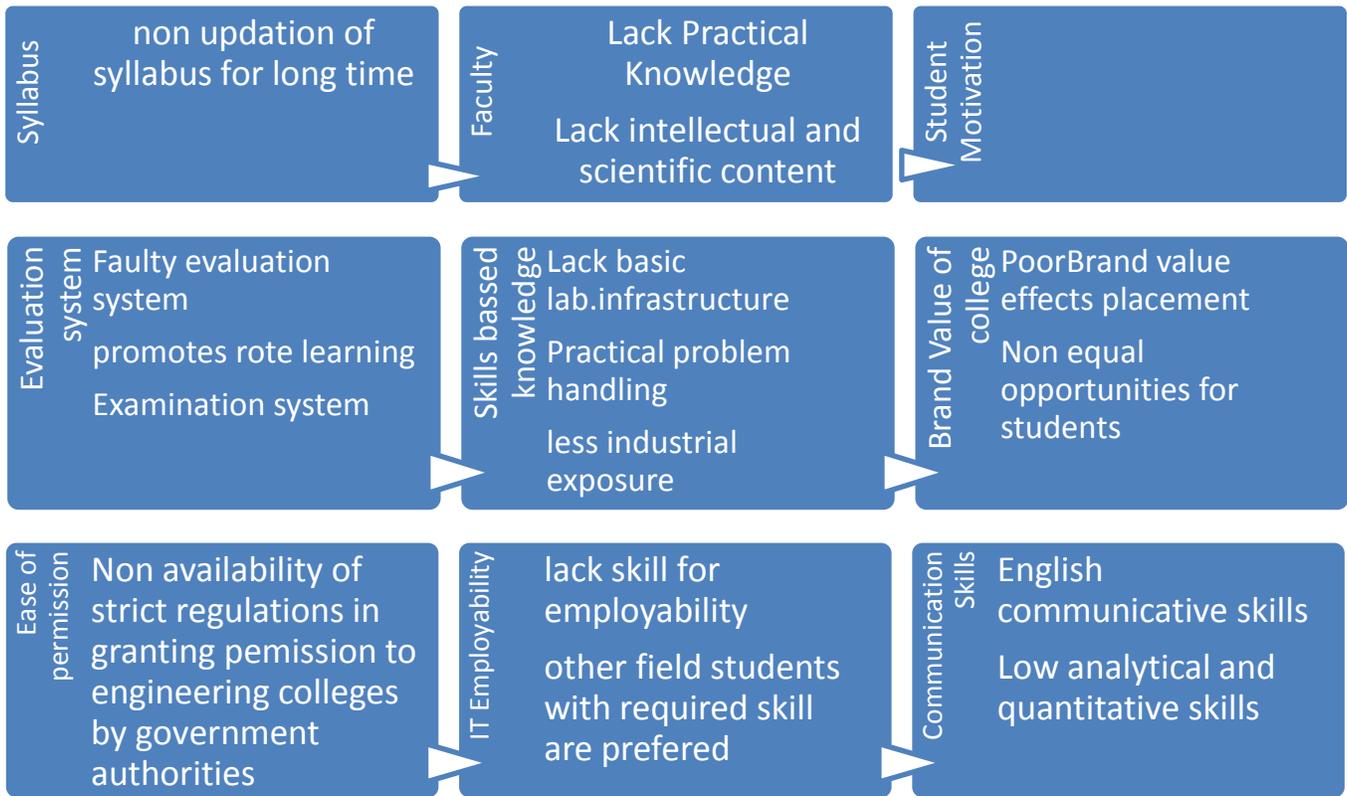


Fig. 2. Reasons for un-employability of Indian engineers

5. MAJOR REASONS FOR SORRY STATE OF EMPLOYABILITY OF INDIAN ENGINEERS ARE

1. Syllabus not updated regularly:

The course contents do not focus on areas which will actually help in the job industry after employment. There is a big gap between what the market needs and what Indian education equips its future employees with. Despite exponential changes in science and technology on daily basis syllabus updation happens rarely. With advent of new branches of engineering like Artificial intelligence, Robotics etc, the Structure remains

traditionally same .Expectations of job market are entirely different from the skills equipped by engineering graduates

2. Lack of quality teachers:

There are more than 33, 023 colleges in India granting degrees. There are not enough quality teachers for all of these educational institutes. Engineering institutes lack quality Faculty with no research or practical experience. Unlike other parts of the world, The Indian faculty in engineering colleges is not comprised of the very best of the industries having the skill to create brilliant student.

3. Lack of innovation and research:

Students need to be motivated enough to innovate or think for themselves. Indian education does not promote inquisitiveness, the building block of innovation. Education system needs to give space and scope for mentation. Rote learning instills in individuals a sort of complacency for more than 12 years of education and they are unable to make the shift from unquestioning learners to innovators in the job market.

4. Faulty education system:

Semester systems and the process of continuous evaluation are not fulfilling their desired roles as the students are not interested in continuous learning –they are more inclined towards good grades. Unless the specific purpose of such initiatives is properly understood by faculty and students alike, these methods likely would not work.

5. Lack of skill-based education:

Skill-based education is another immediate need. Engineering students need to have hands-on training on the basis of the problems they are likely to encounter in the real world. The major skills gap are insufficient basic concepts, in-depth understanding of the technical information and lack of client handling skills. Even the rank holders in the degree encounter the real world problems and realize their shortfall. The result is either to devote extra time to skill themselves or to suffer unemployment. “Start –up India and make in India are positive efforts to boost employment of engineers but its outcome are yet to be realized.

6. Importance of college name:

Companies are prone to visiting only top colleges to recruit potential employees. Desired candidates may not get their resume selected as the degree college does not have brand value equal to that of top colleges in the country. This not only creates a lack in equal opportunities, but also causes a deficiency of quality employees as this process ignores a huge number of meritorious students who do not study in top tier colleges.

7. Ease of permission from state governments:

A major cause of mushrooming engineering colleges is the ease with which state governments grant permission to little-known barely-trained educational trusts and organizations to set up the same. They sometimes lack even the basic infrastructure facilities.

8. The IT 'employability':

The IT sector carries out the highest number of recruitments from the pool of engineers; only 18.43 per cent engineers are skilled enough to work there, while, for IT product roles, the numbers are as low as 3.21 per cent. Due to comparatively higher employment in the IT sector, students even from other disciplines take up IT-related courses. Thus, the end result of this inadequate education creates engineering graduates who are not well-versed in their core subjects, nor in IT.

9. Disregard of proper English and soft skills

The lack of English communicative skills along with low analytical and quantitative skills plays a major role in unemployability. It sector requires employees to communicate with international customers and hence one need to be versed with English communication skills also. The lack of ability of the individual to deliver his views effectively at the interview leads to rejection of even the most brilliant candidate. This is because training institutes do not make an effort to ensure that the candidates develop their skills in a wholesome manner which can contribute towards client-handling and team communication skills.

6. CONCLUSION

In the last decade, access to higher education has improved as more IITs, IIMs and central and state-level universities have been established. However, this burgeoning has also raised concerns about an imbalance between excellence and inclusion. The regional-state-level universities suffer from a shortage of good-quality teaching staff and laboratories. More than 70% of Indian students study at local and regional universities, but these institutes have smaller budgets and have become known for inflated grades, deflated quality and absenteeism among students, even teachers.

They are poorly funded by the Ministry of Human Resource Development, which allocates a major chunk of the budget to central universities, and a smaller fraction of students attend them. Local and regional universities urgently need to correct course and improve their infrastructure, increase the number of laboratories and enhance the skills of teachers to teach and motivate students. It is possible because India has developed islands of excellence such as IITs and the IISc, and is now producing about 15-20% of the faculty members universities worldwide. We need to rise up to international, and better national, benchmarks and provide quality education to our students. We need to start building niche research program me, Reform college examination system and encourage internship program me and project based learning. The recently introduced National Institute Ranking Framework and grade systems for universities are steps in the right direction.

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Quality Assurance in Higher Education

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Abstract: *Quality assurance is a holistic approach covering all the processes in a higher educational institution, to serve the students and stakeholders in expected quality standards. The success of quality assurance system depends on the support of the management. Hence Quality assurance should also cover the strategic management, process management and measuring monitoring system which interact with each other for enabling the institution to improve its processes. Furthermore, information systems should be implemented to integrate the quality assurance system with management processes for enhancing the overall success, and to produce assessable information about quality assurance system. In this study, a quality assurance framework supported by strategic information system is proposed for higher education institutions. The proposed strategic information system also integrates the strategic management, process management and monitoring – measuring systems as well as takes into consideration international, national and regional external factors.*

Keywords: *Quality assurance, strategic management*

1. INTRODUCTION

In an age of mass and increasingly internationalised higher education, it has become the norm that both universities and quality assurance agencies are subject to external scrutiny. Yet it is becoming increasingly difficult to assess quality and to demonstrate the impact of external quality assurance. In this diverse society where there is variation in ideas, opinions, views, the meaning of higher education means different to different people. But when we want to talk and discuss about quality in higher education we should also be aware about what is higher in higher education. So we as a teacher educator and stakeholder of higher education would be agree on the fact that it is not just the higher level of education but when we talk of the level higher education includes college and university teaching – learning towards which everyone progresses to achieve higher education. Higher education means In-depth knowledge to acquaint the learner to the new horizons of knowledge in different aspects of knowledge. It is about knowing more and more about less and less. Higher education develops the student's ability to enquire and seek answers and makes him/her competent enough to analyse the issues in a critical manner.

Quality assurance in higher education includes all policies, measures, planned processes and actions through which the

quality of higher education is maintained and developed. Quality of higher education can be described as the degree to which the education meets the client's needs and demands. In this respect higher education has two different clients: students and society.

The expectations of these clients differ depending on whether it regards academic (science/research-driven) study programmes or hpe (labour market's demand-driven) programmes. It is, therefore, obvious that by putting the concept 'quality' into practice the further filling in of 'quality' differs as well.

The report of the UNESCO International Commission on Education in 21st century titled "Learning: The treasure within" (also known as Delors Commission) focussed on 4 elements of education: Learning to know, learning to do, learning to live together and learning to be. The report highlighted the four functions of higher education:

- To prepare the students for research and teaching
- To provide highly specialized training courses adapted to the needs of economic and social life.
- To be open to all, so as to cater to the many aspects of lifelong education in the wider sense
- To promote international cooperation through internationalization of research, technology, networking and free movement of persons and scientific ideas.

Quality

The term quality also means different to different people. Some consider it synonymous with beauty. Quality word comes from latin word *quails*, meaning what kind of. Harvey defined 5 different approaches to define quality:

In terms of exceptional (above high standards)

- In terms of consistency (zero defects and getting right the first time making quality a culture)
- As fitness for purpose (means the product meets the stated purpose, customer satisfaction)
- As value for money (through efficiency and effectiveness)
- As transformative (in terms of qualitative change)

Quality has few central ideas i.e. quality as absolute, quality as relative, quality as a process and quality as culture. When we consider quality as absolute, it is considered as highest

possible standard. For example the picture of “Mona Lisa” by Da Vinci, the Egyptian Pyramids and the Taj Mahal are works of high quality. Educational institutions such as Oxford, Cambridge and Stanford in the west have high quality standard.

When it comes to quality in higher education it emphasises the need of higher standards in education which makes it appropriate and upto the mark. Quality assurance is the responsibility of everyone in an educational institution, although the top management SETS the policies. Thus assuring quality should be a continuous and on-going process. Across the world quality assurance is done in given ways:

- Self evaluation
- Peer review by a panel of experts, usually including some external panel members
- Analysis of statistical information and /or use of performance indicators or the best practices benchmarking
- Survey of students, graduates, employers, professional bodies

Main Features of Quality Assurance

In the organization of quality assurance the key word is ‘independent evaluation’. Quality assurance systems should be independent from state interference, from educational macro-planning policy and from the particular interests of the individual establishments if these interests regard other than quality matters. The reliability of quality assurance systems depends on the independence of the evaluation.

- Though quality assurance systems in the hae-sector and in the hpe-sector are basically the same, it is obvious that in the further elaboration differences will occur related to the distinct nature and objectives of both these types of education. In particular this regards not only the performance-indicators, which structure the quality assessment but also the background or qualification of the external experts involved in the evaluation. In the hae-sector the performance indicators and the experts chosen reflect the scientific and research objectives of its education. In the hpe-sector occupational requirements are the guiding principle.

For that reason some countries have established two distinct national quality assurance bodies or agencies - one for the academic sector and one for the hpe-sector. However this is not necessary since both systems are basically the same. In some of the CEEC-countries it is even not preferable in view of their limited resources.

- Regardless of the degree to which educational establishments are autonomous, in every country educational establishments are considered as to be fully accountable to society being the financier and the consumer. Quality assurance systems, therefore, are designed in such a manner that establishments can give that

account in a systematic and transparent way. Consequently, the outcomes of evaluations are public.

Accountability in this respect is not only a formal matter. More important than the formal aspect is the social aspect. In particular this regards the hpe-sector being a relatively new phenomenon, which in many CEEC- countries still has to gain social recognition. The experience in EU-countries shows that a systematic approach in quality assurance resulting in public conclusions, furthers a broadly based recognition from society.

The other purpose of national quality assurance systems is the maintenance and development of the quality. Since this is by definition the major concern of every establishment, quality assurance is a quality-driven rather than an accreditation driven-process. This implies that at establishment level the organization and the planning of quality assurance are not determined by the accreditation-cycle but by the establishment itself, since quality is not only a major but also a constant concern of the establishment. Internal evaluation will provide the establishment with relevant information about its own performance. In particular the (causes of) the weak and strong points are identified by assessing (e.g.): the feasibility of the strategy, the adequacy of the educational objectives (relevant, achievable, testable?), the relevance of the study programme, the effectiveness of the education- and assessment-methods, the competence of the staff, the effectiveness of both the internal and the external (information) network and the efficiency in the use of human, financial and other resources.

Based on the conclusions from this analysis arrangements are defined and implemented in order to further the quality of the establishment and its study programmes. During consecutive internal evaluations it will be verified whether these arrangements really have been implemented and, if so, whether they have resulted into the intended effects. Internal evaluation or self-assessment is, therefore, considered as to be an indispensable management-tool to assure the quality. For that reason the planning and the organization of internal evaluation are designed in such a way that quality assurance and institutional decision-making are integrated.

Systematic introduction of quality assurance in education forces the educational establishments to define very clearly their objectives and to involve the ‘outside world’ in the assessment of their performance. In that respect quality assurance will lead to a demarcation of the educational sectors each of them with their own (recognized) identity. This is relevant in particular to the hpe-sector in CEEC-countries since this sector still has to get full position in the education system and in the social appreciation.

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A Study on Quality Assurance in Higher Education

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Abstract: *Quality improvement in education system is mainly related to the teaching, evaluation techniques, results and placements of the institution. In recent years India has seen a tremendous growth in the number and types of institutions providing higher education. In order for organizations and individuals to remain competitive in a rapidly changing environment, demand for education and training has become more critical than before. The performance of higher education institutions is a growing concern. The pressure for quality assurance poses a major challenge for higher education as in case of many developing countries including India. With increasing interaction of commerce, trade and education across national borders, needs for measures of the quality of education in a given country or region are growing each year. According to the Ministry of Human Resource Development, India, only about 10-11% of the population in the relevant age-group is enrolled in higher education, and a mere 5% graduate with degrees. Quality Assurance is a holistic approach covering all the processes in higher education institutions, in order to serve the students and other stake holders the expected quality standards. The purpose of this paper is to determine the state of research in a review of quality assurance in higher education institutions based on a review of the academic literature.*

Keywords: *Quality Assurance, Higher Education Institutions, performance, holistic, teaching.*

1. INTRODUCTION

"Education is an ornament in prosperity and a refuge in adversity."

-Aristotle

In today's era of knowledge-driven economy and learning societies, both formal and informal education is playing an increasingly vital role in promoting economic solidarity, social cohesion, individual growth, sustainable development, and a culture of peace and world citizenship. Globalization is one of the most transformative forces of our times. It has altered every conceivable aspect of our lives—not the least of which is higher education. *Quality* in the context of higher education can be defined as a judgment about the level of goal achievement and the value and worth of that achievement. It is also a judgment about the degree to which activities or outputs have desirable characteristics, according to some norm or against particular specified criteria or objectives. Available

literature on quality of higher education in India have dealt with issues ranging from professional examination results to internal aspects of inputs i.e. accreditation, students intake, basic infrastructure, qualifications of teaching faculty etc.

Quality assurance refers to the policies, attitudes, actions and procedures necessary to ensure that quality is being maintained and enhanced. In a society full of diversity, ideologies and opinions, higher education means different things to different people. Higher education includes college and university teaching-learning towards which students' progress to attain higher educational qualification. Higher education imparts in-depth knowledge and understanding so as to advance the students to new frontiers of knowledge in different walks of life (subject domains). It is about knowing more and more about less and less. It develops the student's ability to question and seek truth and makes him/her competent to critique on contemporary issues. It broadens the intellectual powers of the individual within a narrow specialization, but also gives him/her a wider perspective of the world around.

According to *Ronald Barnett (1992)* there are four predominant concepts of higher education:

- i) *Higher education as the production of qualified human resources.* In this view, higher education is seen as a process in which the students are counted as "products" absorbed in the labour market. Thus, higher education becomes input to the growth and development of business and industry.
- ii) *Higher education as training for a research career.* In this view, higher education is preparation for qualified scientists and researchers who would continuously develop the frontiers of knowledge.
- iii) *Higher education as the efficient management of teaching provision.* Higher education institutions focus on efficient management of teaching-learning provisions by improving the quality of teaching, enabling a higher completion rate among the students.
- iv) *Higher education as a matter of extending life chances.* Higher education is seen as an opportunity to participate in the development process of the individual through a flexible, continuing education mode.

2. WHAT IS QUALITY ASSURANCE

"What is important in knowledge is not quantity, but quality. It is important to know what is significant, what is less so, and what is trivial."

–Leo Tolstoy

“Educational institutions should have responsibility towards their immediate surroundings and give back to society a part of the benefit they gain.” as mentioned by Prof H.A. Ranganath, Director, National Assessment and Accreditation Council (NAAC), Bangalore, in his presentation at National Conference in India. He further mentioned that, University should become a socially-conscious and meaningful enterprise. The repositories of intellectual wealth were often looked upon to take a leadership role within a society, and that the students should be exposed to social learning, community and team-building skills, civic education and awareness of social responsibility. Quality assurance is the main driver for accreditation of on-campus programs by national and international accreditation agencies. It is ultimately the responsible of the institution themselves. The real and enduring quality can only come from by the universities as a result of self-evaluation and peer review. Quality assurance protects and enhances quality through system design and performance monitoring. Monitoring may occur informally in the course of collaborative practice. Quality assurance in higher education is:

- defined as systematic management and assessment procedures adopted by a higher
- education institution or system to monitor performance and to ensure achievement of quality outputs or improved quality

Quality assurance aims to give stakeholders confidence about the management of quality and the outcomes achieved. Internationalization in higher education has resulted in “a growing demand for accountability and transparency . . . [which has] in turn led to a need to develop while addressing the challenges of globalized higher education” Table 1 gives the chronology of quality movement.

TABLE 1: The chronology of quality movement

Pre-1900	Quality as an integral element of craftsmanship
1900-1920	Quality control by foreman
1920-1940	Inspection-based quality control
1940-1960	Statistical process control
1960-1980	Quality assurance/total quality control (the quality department)
1980-1990	Total quality management
1990-Present	TQM, the culture of continuous improvement, organization-wide quality management

Source: Sallis (1996).

3. ADRI APPROACH OF QUALITY ASSURANCE

The four-step quality cycle: Approach-Deploy-Review-Improve (ADRI) is explained with the help of the figure no. 1.

1. Approach – The Thinking and Planning Phase

The ‘Approach’ includes the trail from an organisation’s mission, vision and values (i.e. its overall objectives) through to more specific goals and the planned arrangements for how these will be achieved. The latter may culminate in written policies and procedures. Some questions to consider:

- What is this organisation about?
- What outcomes is it trying to achieve?
- What, if any, reference points (internal or external) are used in establishing the organisation’s objectives?
- How does the organisation plan to achieve its objectives?
- Does it understand its context and capabilities?
- Are the organisation’s objectives set against appropriate benchmarks?
- What risk management processes does it have in place?
- Is the approach aligned and communicated throughout the organisation and more widely?

2. Deployment – The Implementation Phase

The ‘Deployment’ dimension considers whether, and how effectively, the approach is being put into effect. Some questions to consider:

- Is the approach being deployed in the best possible manner? According to whom?
- What standards and benchmarks is the organisation using to assess this?
- If the approach is not being deployed, why not, and how is this managed?
- Are staff appropriately trained, and resources appropriately deployed, to fulfill the approach?

3. Results – The Monitoring and Evaluation Phase

The ‘Results’ dimension looks at an organisation’s results as a means of determining how well the deployment is achieving the planned approach. Some questions to consider:

- Is the organisation achieving its intended objectives and outcomes?
- Does the organisation understand why and how it achieved those particular results, i.e. are the results a consequence of the approach and deployment?
- How are the results reported and used within the organisation?



Fig. 1. ADRI Approach

4. Improvement – The Learning and Adapting Phase

The ‘Improvement’ dimension focuses on whether the organisation is actively and continuously engaged with understanding its performance in each of the A-D-R dimensions, and is using this understanding to bring about improvements. Some questions to consider:

- Does the organisation know how it can improve?
- How does it know this (e.g. through the use of external benchmarks)?
- How is it acting upon this knowledge?
- Does the organisation have a sustained history of improvement?

4. ROLE OF HIGHER EDUCATION IN THE SOCIETY

The issue of higher education in India has always been in the limelight for being one of the chief driving forces contributing to skyward social mobility. Sound education, undoubtedly, paves the way for an exalted career. Higher education is generally understood to cover teaching, research and extension.

The *Kothari Commission (1966)* listed the following roles of the universities (higher education institutions in the modern society):

1. to seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and beliefs in the light of new needs and discoveries;
2. to provide the right kind of leadership in all walks of life, to identify gifted youth and help them develop their potential to the full by cultivating physical fitness, developing the powers

of the mind and cultivating right interests, attitudes and moral and intellectual values;

3. to provide the society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professions, who will also be cultivated individuals, imbued with a sense of social purpose;

4. to strive to promote quality and social justice, and to reduce social and cultural differences through diffusion of education; and

5. to foster in the teachers and students, and through them in the society generally, the attitudes and values needed for developing the ‘good life’ in individuals and society (GOI, 1966, p. 497-8).

The *British Standard Institution (BSI)* defines quality as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs” (BSI, 1991). Green and Harvey (1993) identified five different approaches to defining quality:

1. in terms of exceptional (exceeding high standards and passing a required standard);
2. in terms of consistency (exhibited through “zero defects” and “getting right the first time”, making quality a culture);
3. as fitness for purpose (meaning the product or service meets the stated purpose, customer specifications and satisfaction); as value for money (through efficiency and effectiveness); and
4. as transformative (in terms of qualitative change).

Table 2 shows the hierarchy of quality management.

TABLE 2: Hierarchy of quality management

Total Quality Management	<ul style="list-style-type: none"> • Involves supplier and customers • Aims for continuous improvements • Concerns products and processes • Responsibility with all workers • Delivered through team work
Quality Assurance	<ul style="list-style-type: none"> • Use of statistical process control • Emphasis on prevention • External accreditation • Delegated involvement • Audit of quality systems • Cause and effects analysis
Quality Control	<ul style="list-style-type: none"> • Concerned with product testing • Responsibility with supervisors • Limited quality criteria • Some self-inspection • Paper based system

Inspection	<ul style="list-style-type: none"> • Post production review • Re-working • Rejection • Control of workforce • Limited to physical products
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Source: Dale and Plunkett (1980)

5. DIMENSIONS OF QUALITY IN HIGHER EDUCATION: A CONCEPTUAL FRAMEWORK

Quality, as we know so far, was originally developed in the manufacturing industry. In the area of higher education, the adoption of quality control has been superficial and diluted by the exercise of academic freedom (Largosenet al, 2004). The service dimension of quality is probably more akin to the educational processes. We know that unlike physical goods, services are ephemeral to the extent that they can be consumed only as long as the activity or the process continues. Thus, there is inseparability of production and consumption. Thus, services can't be stored and are perishable. The consumer is also an integral part of the service process. Thus, in higher education, this framework is more applicable as the teaching learning situations are more like a service.

Based on the review of literature in the area of quality in higher education, Owlia and Aspinwall (1996) present a conceptual framework that covers six criteria to depict quality dimensions. These are tangibles, competence, attitude, content, delivery and reliability as shown in Table 3. These dimensions are indicative of the areas that should be of concern to ensure quality in higher education.

TABLE 3: Quality dimensions in higher education

Dimensions	Characteristics
Tangibles	<ul style="list-style-type: none"> • Sufficient equipment/facilities • Modern equipment/facilities • Ease of access • Visually appealing environment • Support services (accommodation, sports...)
Competence	<ul style="list-style-type: none"> • Sufficient (academic) staff • Theoretical knowledge, qualifications • Practical knowledge • Up to date • Teaching expertise, communication.
Attitude	<ul style="list-style-type: none"> • Understanding students' needs • Willingness to help

Dimensions	Characteristics
	<ul style="list-style-type: none"> • Availability for guidance and advice • Giving personal attention • Emotional, courtesy
Content	<ul style="list-style-type: none"> • Relevance of curriculum to the future jobs of students • Effectiveness • Containing primary knowledge/skills • Completeness, use of computers • Communication skills and team working • Flexibility of knowledge, being cross-disciplinary
Delivery	<ul style="list-style-type: none"> • Effective presentation • Sequencing, timeliness • Consistency Fairness of examinations • Feedback from students • Encouraging students
Reliability	<ul style="list-style-type: none"> • Trustworthiness • Giving valid award • Keeping promises, match to the goals • Handling complaints, solving problems

Source: Owlia and Aspinwall (1996)

6. TOTAL QUALITY CARE

One of the contemporary thinkers of higher education and total quality management, Ronald Barnett (1992) says "Quality in higher education demands the establishment of an institutional culture, not so much a matter of total quality management but rather one of total quality care, in which each professional is seized of his or her responsibilities and takes care over all his or her own professional efforts" (p. 133).

According to him, quality should be seen as a process of critical dialogue within an institution, where course teams accept ownership and facilitate student engagement towards learning and development, and there is a self-critical culture of continuous care for the students' quality course experience. Barnett suggested that there are four core activities that takes care of quality in higher education: (1) teaching and learning; (2) student assessment; (3) staff development; and (4)

curriculum/courses. These form a 'protective belt' to the overall student development and experience that is central to quality higher education. The ideas of Barnett are depicted in Figure 2. Beyond this, the activities within 'auxiliary belt' are important but have less direct bearing on the quality of student experiences. These are research and publication, institution

policy towards access and recruitment, institution's academic development plans, and link with industry, business and the professional community. Within this framework, quality in higher education institutions can be seen both in qualitative and quantitative terms.

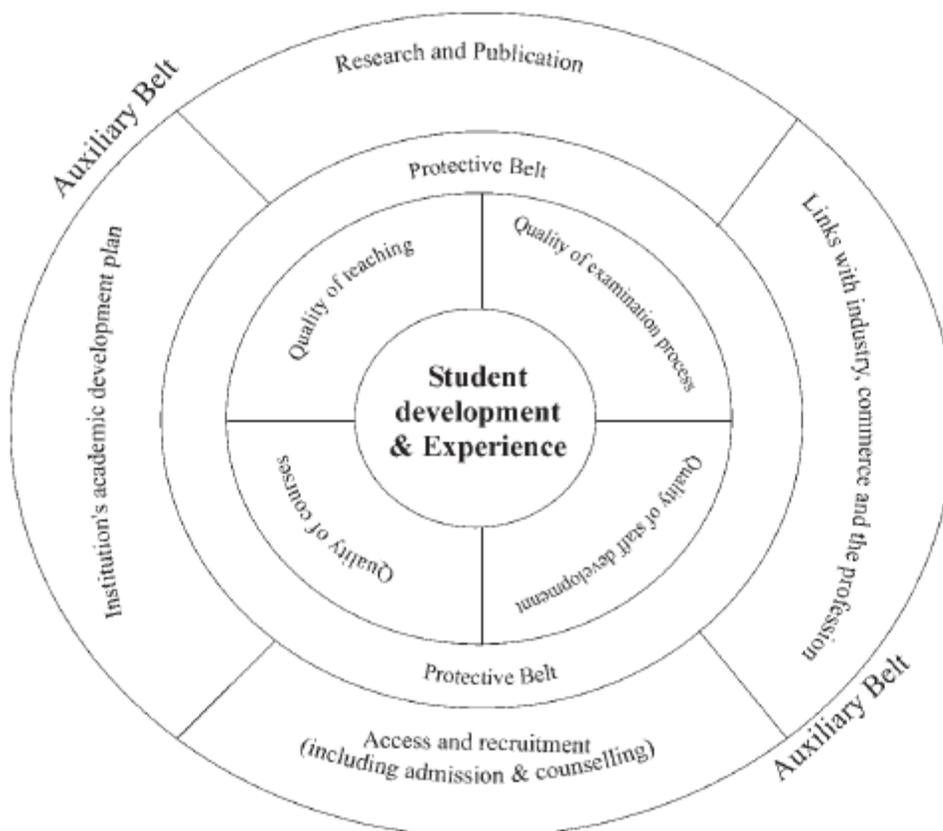


Fig. 2. Barnett's Quality Framework

7. CONCLUSIONS

"The aim of teaching is simple: it is to make student learning possible ... To teach is to make an assumption about what and how the student learns; therefore, to teach well implies learning about students' learning".

-Ramsden, 1992

Education is the foundation for a vibrant democracy in which all informed citizens exercise their franchise to support the internal growth of the nation, its constructive role in the world community. It is the foundation for growth in productivity, incomes and employment opportunities, and for the development, application and adaptation of sciences and technology to enhance the quality of life. The conclusions indicate there is very little research on quality management, despite quality's role growing in importance as universities

strive to compete in an increasingly underfunded market for students and research funds. The pressure for quality assurance poses a major challenge for higher education as in case of many developing countries including India. While quality assurance has always been a matter of concern and significance in education, in general, and in professional education such as technical education in particular. The recent quantitative expansion of an unprecedented nature, in India, has caused educators to devote careful attention to the quality aspect.

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A Dynamic Approach of Education in Contemporary India

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Abstract: *There has been immense growth in the education system of India over the years. Human Capital is considered one of the essential ingredients to make education system convenient and successful in modern India. Capability approach which is considered a dynamic approach is being focussed upon where the aim of the study is to find the problems of the education system using this approach. A proper mechanism of evaluating five principles of the approach is being explained and thereby emphasizing on certain policies yet to be implemented for the improvement of the higher education system.*

Keywords: *Capability, Human Resource, Higher Education in India*

1. INTRODUCTION

Education sector has been the most important priority in modern India. The greatest resources which this sector require are a teacher and this arises a need for an institution to make investment in upgrading the knowledge and skills of a teacher. Students are normally equipped with knowledge, skills and values that may contribute to a successful career in business by delivering higher quality education. According to Union Budget 2018, budgeted expenditure on health, education and social protection for 2018-19 has been estimated at Rs.1.38 lakh crore against estimated expenditure of Rs.1.22 lakh crore in 2017-18. It has also been mentioned that the Higher Education Financing Agency (HEFA) would be suitably structured for funding the RISE initiative. This would lead to follow a dynamic approach towards assuring quality of education in modern India.

The modernism in the education sector cannot be imagined without dredging in the past. Past data showed that in the era of 1900s, four engineering colleges in India were there with annual intake of 74 students. The growth of higher education remained slow till Independence. After Independence, the newly formed government played a crucial role emphasizing on quality of higher education in India. It has been witnessed that human capital is one of the essential ingredients for the development of our nation providing good quality education. The main intention of our First Prime Minister of India was to incorporate ideals of rationality and social responsibility into the people through education so as to evolve them as

responsible citizens. This may assist in building the welfare of our country. In order to fulfill the objective of achieving good quality education, a major contribution has been made by the first Prime minister of our country for the enlargement of various institutes of Higher education especially those focusing on technical and executive skills. His main aim or hope was to fabricate these institutes' and name them as world class centres of research and learning.

2. THEORETICAL FRAMEWORK

There are numerous factors that determine the quality of education but, a teacher and teaching-learning process in classroom plays a crucial role. Emergence of new economic global environment made Indian Government to pursue a fivefold strategy in 1990s that helped in improving the quality of education. These include- building up provisions regarding improvement in infrastructure, development of human resources for primary education; provision of improved curriculum and offering latest teaching learning material; enhancement in the quality of teaching learning process by way of incorporating child centred pedagogy; major emphasis to teacher capacity building; and special increased focus on specification and measurement of learners' achievement levels. In this context, the priority has been given to the teachers and quality of their way of teaching. There is no universally accepted definition for 'quality of education'. In education, perception of quality is around students (Mukhopadhyay, 2001). The quality of education is generally exhibited by judging the performance of the students like examination results, learning achievements, and ability to apply learned knowledge in practical life. The public expenditure on higher education has been continuously increasing after Independence. There has been a good growth rate in 1960s. It slightly decreased in 1970s but then again increased in 1980s. The higher education system in India is the third largest in the world after China and United States of America. From less than a hundred thousand students in about thirty universities and five hundred colleges at the time of independence, Indian higher education presently includes 633 universities, 67 institutes of National Importance and other university level institutions and 36, 239 colleges (UGC Higher Education at a Glance, 2013).

TABLE 1: Data for Higher Education Institutes in India

Higher Education Institutes	Academic year 2011-12
Universities	659
Central Universities	152
State Universities	316
Private Universities	191
Colleges	33,023
Central	669
State	13,024
Private	19,930

Source: Sociological Bulletin

It has been revealed in table 1 that the number of universities went up from 20 in 1947 to as high as 659 in 2011, and a similar trend was observed as the number of colleges increased from 500 to 33, 023. State Funding Reduction lead to privatization of Higher education Statistical information in the sociological bulletin, showed that in 2002, 78.2 percent of engineering and technical colleges and 71.3 percent of medical colleges were in the private sector. These private institutes mushroomed mainly to fulfil the huge demand for professional courses such as engineering, medicine, law and management. Due to shrinkage in the funds, a refusal by State government was there not to set further universities, or to recruit new faculties etc. Thus, it has been witnessed by many corporates of MNCs that Indian education system is reeling out unemployable degree holders with less or no practical experience in a particular field. Thus, to examine the problems of our education system, a dynamic approach serve as a catalyst known as Capability Approach.

The Capability Approach (AmartyaSen and Martha Nussbaum) is a theory of welfare economics which focuses upon the individual's ability of achieving a particular goal depending upon the core five factors as stated below:

- The importance of real freedoms in the assessment of a person's advantage
- Individual differences in the ability to transform resources into valuable activities
- The multi-variant nature of activities giving rise to happiness
- A balance of materialistic and non-materialistic factors in evaluating human welfare
- Concern for the distribution of opportunities within the society

3. LITERATURE REVIEW

Valenzuela (1999) found that majority of the Mexican and Chicano students in her study believed, that, their teachers did not care about them because they failed to address the

students' broader needs and social concerns. The underlying philosophy behind the appointment of para teachers in various countries and the para teacher scheme in India has been that a local person appointed as teacher is better able to establish good rapport with the local community.

Monzo and Rueda (2001) working on Latino para educators found, that, sharing the culture, language, and experiences of their students helped them to relate with student in meaningful ways. These para educators are generally members of the same or similar community in which they teach, and therefore, share many of the experiences and cultural practices of their students, including their primary languages and cultural practices etc. In India, the state of Rajasthan has successfully been able to overcome the problem of teacher shortage and teacher absenteeism through these para professionals under the 'Shiksha Karmi Project' which is also the origin of para teacher scheme in the country.

Despite the rapid expansion, the Indian higher education is inequitable on both traditional (based on caste and gender) and modern (class and region) axes (Deshpande, 2012). There exist rural and urban disparities; gender disparities; inter- religious group disparities; inter- state variations; disparities among social groups within religion; inter- caste disparities and disparities among income groups as well as occupation groups (Aggarwal, 2009).

During the 1960's and 1970's, educational expansion was financed by increase in public expenditure. Till the 1970's it was felt that public expenditure and investment in education could be recovered by the society through increased productivity of labour force and consequent receipts by the government (Tilak, 2004). However there was a declining trend in educational expenditure in the early part of 1970's due to non- realization of expected results by education investment (Tilak 1984); brain drain and unemployment among the educated (Psacharopoulos & Wood hall, 1985) and the need of public funds for other sectors such as health, nutrition, rural development and agriculture. In the beginning of 1980's neo-liberal economic reform policies unveiled in many developing countries, considering that the private sector is ipso facto efficient and desirable and this led to eclipse of Keynesianism and rise of an emerging system of free market philosophy (Tilak, 2004).

4. OBJECTIVES OF THE STUDY

The major objectives of the study are:

- To analyse the education system with respect to Capability Approach
- To examine the factors of Indian Education System using the Capability Approach and evaluating it.

5. ANALYSIS AND FINDINGS

Despite the shrinkage of funds in the state sector, the demand for private higher education has risen in India at the end of the

20th century. These institutions have been successful in providing access to higher education and prepare skilled personnel that meet the demands of the global marketplace. However, it has been seen that the public universities have also been privatised due to the shrinking fiscal space for higher education in the public budgets. There has also been a trend of experiential learning describing certain types of learning processes discussed by David Kolb- Divergent, Convergent, Assimilating and Accommodating. The capability of individuals differs based on their thought process, skills and learning style. Everyone has their own way of recognising problems i.e. by logical analysis, or by group discussions or by practically doing things. But allaccommodating learning styles are not applicable for the education system in India. Indian classrooms are designed for typical Assimilating learners (those who learn by watching and thinking). There should be an emphasis on theoretical knowledge while practicals should be considered as secondary. Thus, various learning styles should be incorporated so as to gain students much from the class and this would make students capable of applying it in real life situations.

Economic need greatly influences a person's choice of the type of education, driving them to give up on individual interests. In such cases, no intrinsic motivation exists which severely affects not only their skill development but also their performance as an employee. People are often unable to pursue the courses of their choice due to high merit requirements in government colleges and relatively expensive education in private colleges. Hence, equal employment opportunities should be created in all sectors and industry relevant practical training should be a part of every curriculum. This would regulate the excessive bilge of human resources into one sector and thereby contributing to the development of each and every sector thus promoting the wholesome economic growth of the country.

In our country, students are supposed to choose their subject of study before taking admission in the college. There is a restriction to a certain domain for the students. This is considered as a rigid system as it inhibits the growth of the individual and people may end up choosing a subject under peer pressure and be stuck with it for the rest of their lives. This is in sharp contrast with the Liberal Arts system prevalent in the US and many European countries. Under this system, students get a chance to study every subject of their choice for the first one or two years in college. They get a chance to discover their niche and develop a broad knowledge base over many fields of study before plunging into the final decision about their degree. Apart from this, there are absolutely no restrictions on the field of study uptill the graduate levels. Intense specialization within the subject area takes place only after the undergraduate programmes. Such a flexible system provides adequate time to people for making an informed decision regarding their profession and field of study, without being bogged down by societal pressure.

Another difficulty with the Education system is the focus mainly on cramming of concepts for the "final exam". The systemic suppression of intellectual curiosity takes place at a very early age where school attending children are not encouraged to ask meaningful questions. Due to shortage of the teaching staff in many colleges, the packed up classrooms are left at the mercy of Teaching Assistants who only aim to finish the courses and pay little attention towards fostering the intellectual curiosity and skill development. There are cases of colleges running a course with non-existent classes while conducting the exam for the same. There is an intense race over the highest marks and getting a good "placement" is considered the main goal. This narrow approach to education may seem to be time-saving and an easier path in comparison with the approach of intellectual enquiry but in the long run, it leads to people feeling disillusioned by the rigid competition and many feel dissatisfied as they realize that they are not really learning anything of much use. Even though getting a job remains the main target during college, employers repeatedly complain of Indian graduates who finished at the top of their class and yet are not able to work satisfactorily and apply their theoretical knowledge.

One solution is to invest in training the teaching staff by providing them with continuous workshops about innovative teaching technologies and to ensure a good student to teacher ratio in colleges that enables the teachers to monitor the individual growth. The obsession with getting a "placement" is a reflection of growing consumerism in the society where social status is ascribed to conspicuous consumption. Our education system develops a homogenous mass of self-oriented people who are never really encouraged to take an active part in social development, political activities and are not taught to exercise their discretion in making the right choices regarding the socio-political scenario of the country. People need to be made aware of the fact that their decisions matter not only to themselves but also have an impact on the society and they are responsible for bringing about a systemic change whenever time calls for it.

6. CONCLUSION

It has been seen that because of decline in the funding of state sector, there has been a rise in the demand for private higher education in the twentieth century. There has been a wider access to higher education by these institutes and certain efforts are taken by the skilled personnel in meeting the demands of global world. Privatization has also been witnessed in case of public universities due to the shrinkage of fiscal place for education in the public budgets. Five principles of capability approach are being discussed taking into consideration the shortcomings of the higher education system. One way to get advantage of having young population is basically investing in the education and to remove disparities related to quality and quantity of certain educational opportunities. Usually political stability is led by a disillusioned and frustrated youth who is susceptible to

manipulation by extremist groups (as visible in the Naxalite stricken areas). There is need to analyse and scrutinize the education policies by the central government and regulatory authorities at the national level. A sensible National Education Policy needs to be formulated to check upon the qualitative and also the quantitative growth of institutions, to ensure that education satisfies not only the industrial but also an individual's needs. Certain policies should be implemented to permeate to the general population and should not remain just as a layout. Often these policies get caught up due to red tapism, corruption and a general disinterest on part of the regulatory and monitoring authorities. A systematic approach should be adopted to resolve such issues before the Indian higher education system falls into deep, unrecoverable chaos.

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Dialogue as Constructivist Pedagogy

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Abstract: Education is not only the process for facilitating learning or acquisition of knowledge. Our students are relevant methods of creating the knowledge. An interactive model suggested by constructivism follows five E's of cycle. Engagement, Exploration, Explanation, Elaboration, and Evaluation. The term constructivism refers to the idea that individuals, through their interaction with the environment, construct their own knowledge and meaning (Fosnot, 1996; Steffe & Gale, 1995). Constructivism transforms the students from a passive recipient of information to an active participant in the learning process. Dialogue mode learning is important elements of life skills, values and behavior, and also to achieve the goal of education. As the need of modern age, education must be well organized, and we have to plan for constructing the knowledge by creating active learning environment through dialogue mode.

The present paper thematically looks into the integration of such activity oriented educational system by considering the constructivist pedagogy for teacher education program through Dialogue Mode.

Keywords: Dialogue, Constructivism, Pedagogy, Collaborative

1. INTRODUCTION

Education is not only the process for facilitating learning or acquisition of knowledge; it is also a process for developing skills, habits & social behavior, inculcating values & beliefs, among the students. The education should not only make the student literate but also to make them creative, knowledgeable, rational, self-sufficient in all the aspects of life. In order to fulfill these demands the teachers need to use some innovative ways of disseminating, sharing & facilitating knowledge development in students. Gone are the days of professor developing on lecture while standing behind a rostrum in a huge lecture hall in a way communication mode. Where his or her words are words of God & students sit quietly embracing his or her words busy taking down notes those days have long been over and they have been replaced with more innovative & creative ways of disseminating, sharing & facilitating knowledge development in students. (R. Jayashree, 2017).

Presentation/Seminars are considered because it covers wide subject, depth of coverage of ideas, more learner-learner-

teacher interaction and a more productive learning environment can be produced. It improves both the affective and cognitive conditions of the learners during the teaching-learning process.

The contemporary vision of using Dialogue as pedagogy is generally acclaimed (Burbules 1993; Crowell 1990). It considers verbal interaction between teacher-learner and among learners through inquisitive questions. It is skillful exchange between learners that develop shared understandings and a sense of ownership, facilitate genuine agreement and enable creative decision making. Therefore, dialogue mode is accepted in group setting for seminar instruction. In such setting all the learners can contribute independently towards the Group task.

2. DIALOGUE

Dialogue is back-and-forth form of question and answer. This view stressed the role of vigorous debate and argument to draw defensive conclusions out of fundamental opinions. It is open ended, empowering and hence based on construction of knowledge. It allows learners to be aware of what they share in common as well as the uniqueness of each of them as individuals (Harrington, 1994). The need of shift from transmission of information to transformation of learner thinking is emphasized. It offers a way for learners to externalize thinking skills and develop clear and present thought-out-point of view. It is verbal interaction between the peers of the group which **promotes communication skill**. The paradoxical statements, conflicts that precisely cannot be answered can well be communicated through this process. The dialectical process helps in reconstruction of ideas and concepts. Working with peers during dialectical process with the guidance of mentor highlights some important features of Vygotsky's work (Bruner, 1984). Vygotsky's zone of proximal development provides opportunities to work with a competent peer in order to maximize one's growth. The learners engaged in meaningful dialogue encourage one-on-one collaborating, questioning and challenging of viewpoints. The multiple ways of solutions and answers are highlighted. Reflective abilities are enhanced.

3. CONSTRUCTIVISM

Constructivism is dynamic and interactive model of how learners learn (Bybee, 1997). A constructive perspective assumes that learners must be actively involved in their learning and the concepts, ideas are not transmitted from

teacher to learner but constructed by the learners through sharing and collaborative process.

An interactive model suggested by constructivism follows five E's of cycle. **Engagement, Exploration, Explanation, Elaboration, and Evaluation.** In this cycle, there is no end to the process, As elaboration ends, the engagement of the next learning cycle begins. Evaluation is linked at each step of the learning cycle.

4. DIALOGUE & CONSTRUCTIVISM

Dialogue in constructivism provides opportunity to a learner to become creative in the learning in order to bring understanding for him \herself. This learning process allows learners to explore and reflect about their activities. These activities lead the learner to reflect on his prior knowledge and experiences to enhance the learning process. The dialectical process relies heavily on collaboration among the learners. The main reason is that in constructivist collaboration learners learn about learning not only from themselves but also from their peers.

5. DIALOGIC PROCESS

Cycle-I Engagement: Activities

- Informal communication to get readiness.
- Knowing the topic of the group.
- Find the topic's objectives.
- Locating the sub themes through mapping.
- Division of responsibility.

Cycle-II Exploration: Activities

- Individual presentation of theme paper.
- Convincing own content to the group individually.
- Question and answer.
- Open ended argument.
- Demonstration of presentation skill.
- Identifying the key learning points/issues.
- Listing out unsolved issues\ideas.

Cycle-III reflection: Activities

- Finding co-relations between themes of the topic.
- Locating the in formations.
- Summarizing the topic.
- Suggesting a new title.
- Query on understandings of points/concepts.
- Applying relevant information to other cases.

Cycle-IV feedback: Activities

- Appropriate interaction with other group.
- Contributing knowledge towards group discussion.
- Providing constructive feedback to other group.
- Perception towards the mode of seminar.

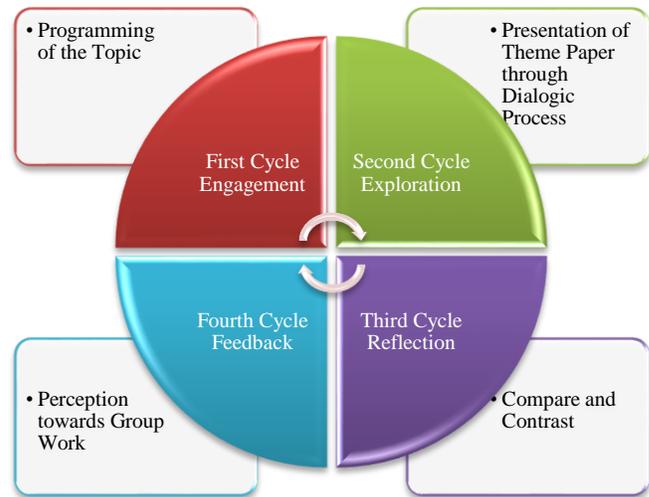


Fig. 1. Dialogic Cycle

Objective

The study on peer dialogue of student teachers for seminar/presentation instruction was based on the following objectives

- 1) To access the dialogue as a constructivist approach.
- 2) To judge the importance of dialogue for creating active teaching-learning environment.
- 3) To identify the role of dialogue in developing the social behavior and communication skills.
- 4) To analyze the impact of dialogue in knowledge construction.

6. RESEARCH METHODOLOGY

Qualitative approach was used for this study.

PHASE I - PLANNING

a) Identification of Sample.

Samples of fifty student teachers of Gitarattan Institute of Advanced Studies & Training, Rohini, were selected by purposive sampling.

b) Identification of Topic.

Five topics were selected from the Foundation Paper “Knowledge and Curriculum Perspectives in Education”, Paper Code: BED212, Semester-IV, Unit: 4(Curriculum Planning and Transaction), from B.Ed. syllabus of GGSIP University. The topics selected were as follows:

1. Role of School Administration in creating a context for transacting the curriculum effectively.
2. Role of Infrastructure support in Teaching & Learning
3. Role of Teacher as a critical pedagogue in curriculum Transaction.
4. School culture and organizational ethos as the context for Teachers’ work.
5. Role of Apex bodies in providing curriculum & pedagogic supports to teachers within schools- NCERT, CBSE, NIOS, SCERT, and CIET.

c) Formation of Dialogue Groups

Five groups each with 10 student teachers were constituted for this study. Each group was assigned one topic for the seminar/presentation.

d) Orientation about the Dialogue Mode

The researcher conducted a lecture followed by question-answer session about dialogue and its mode for seminar/presentation instruction. The steps and its procedure through four cycles were discussed. The role of each and every student teacher individually and in group clarified.

PHASE 2 - ACTION PLAN

The researcher carried out group dialogue for seminar/presentation instruction through a cycle of activities in the following way

• Zero Cycle - Informal Communication within Group

The seating arrangement for a group of student teachers was circular. The informal communication within the group was completed in 10 minutes. The session was started with ‘OM kar’ voice of the researcher.

• First Cycle- Engagement: Programming of the Topic

The scope of the topic was broad. So, the student teachers divided the topic into sub themes and distributed among the group. The student teacher who led the group for programming was recognized as facilitator of that group. 20 Minutes were given to complete the activity voluntarily.

• Second Cycle - Exploration: Presentation of Theme Paper through Dialogic Process

When ‘OM kar’ was recited loudly, individual paper presentation was started. It was an act of convincing to

his\her group about main points of the paper. When one was communicating the points others were to listen deeply. Active listening, back-and-forth questioning, open-ended arguments to share knowledge and collaborative settings were the components of this cycle.

• Third Cycle-Reflection: Compare and Contrast

The Interaction & Discussion took place within the group for active communication. They found out the inter correlates between the different sub-themes and concepts. They discussed out the unknown points/ideas, compared ideas of others among themselves, discovered new agenda constructively. The facilitator recorded the main view points of each theme paper with consultation of each student teacher to draw out summary of the group work.

• Fourth Cycle- Feedback: Perception towards Group Work

Each facilitator presented report on their group work. The report was based on how they contribute towards solution of key learning issues. They narrated on the nature of sharing and collaborative work in completing their task. They were able to solve the group doubt through active communication.

7. METHOD OF DATA COLLECTION AND ANALYSIS

The qualitative data was collected by the following methods:

a) Observation:

- i) Trust was established between the researcher and the learners of the group during the dialogic process for observation
- ii) The leadership skill to choose one as facilitator, way of interaction and conversation, active listening, control of emotions and other social behaviors as well as some cognitive behaviors were observed.
- iii) Feedback prompts were also recorded through observation.

b) Field notes

Records of transactions were maintained in the field note. In order to identify ‘categories of what to observe’ in terms of cognitive and affective behaviors, the field notes were maintained.

c) Student feedback

A third source of data arises from the student-teachers perspectives of the dialogue session. Feedbacks from learners were collected to understand the impact and effectiveness of group dialogue mode.

8. RESULT

1. Creating Active Learning Environment

It student teacher's involvement was observed right from the beginning as it was planned on the principle of division of labor to implement in the small group. The intellectual engagement in small group was active. The student teachers in small group experienced co-operation and inspiration to share their views. Credibility towards leadership was also observed. They went in depth in organizing the information and logically linking such information, facts and data collaboratively.

2. Development of Social Behavior & Communication Skills

The situation of small group learning in the dialogical process showed strong interpersonal interactions. When face-to face interaction took place, facial expressions and gestures contributed for achieving the desired social behaviors. Open-mindedness to seek in formations was recognized through gestures, actions, relations and situations.

In this process, each member was trying to convince others about his/her view point. Members were raising certain types of questions. The facilitator was listing out a number of questions. So, one's view point were communicated and listened actively by others. There was one-to one relationship while dividing and distributing the theme papers.

3. Knowledge Construction

The participants presented the understanding of concepts included in the paper. At the end they were found to have knowledge about the topic and the sub-themes. They outlined the themes sincerely and comprehensively. Each member had recorded summarized key points. This showed the common agreements on those points noted in their diary.

9. CONCLUSION

Dialogue as constructivist pedagogy fosters strong interpersonal interactions. The learners' work is encouraged and approved but never criticized and hostile during seminar instruction. The learners find small group learning to broaden their speaking opportunities and reflect upon their learning issues. The study therefore, revealed that dialogue is effective for group seminar/presentation. Hence this should be implemented in higher classes and teacher education courses in particular. It is observed that the learners develop positive attitude towards dialogical process. So, teachers' should help the learners to develop desirable social and cognitive behaviors through this instruction. It is most effective when it is not competitive but collaborative. Thus, group seminar supported

collaborative learning among the peers by implementing dialogue as constructive pedagogy.

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Advance Pedagogy- Innovative Methods of Participative Learning

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Abstract: Advance pedagogy is a new buzz for enhancing teaching and learning. Various types of innovative approaches can be used by a teacher in a classroom. Today's teaching methods are completed with the help of Technologies. With the use of modern gadgets teacher can teach with effectiveness. The focus on above mentioned methodology has influenced the teaching learning system i.e. the instructional system has shifted to learner centric system from the conventional teacher oriented system. New dimensions of learning through constructivist approach are being emphasized. The constructivist approach deals with participative learning, experiential learning focusing on creation of knowledge by the learner. New innovative pedagogies like ICT mediated teaching learning, Blended learning, multimedia learning, Flipped Learning are to be used. This paper deals with these approaches to learning.

1. INTRODUCTION

Teaching is one of the most influential professions in the society. Teaching is the complex art of guiding students through a variety of selected experience towards the attainment of appropriate teaching learning goals. Affective learning is only based on effective teaching and effective teaching is based on effective strategies. If a teacher follows systematic and planned strategies then he will be successful and his teaching will be able to generate self motivation of learning among students. In the emerging scenario teacher education has also changed. Recent modern & innovative practices have opened new challenges & opportunities for teacher education and these strategies are able to solve the problem of the teaching and learning. India's higher education system is the world's third largest in terms of students, next to China and the United States. Various types of innovative approaches can be used by a teacher in a classroom. Today's teaching methods are completed with the help of Technologies. With the use of modern gadgets teacher can teach with effectiveness. The focus on above mentioned methodology has influenced the teaching learning system i.e. the instructional system has shifted to learner centric system from the conventional teacher oriented system. New dimensions of learning through constructivist approach are being emphasized. The constructivist approach deals with participative learning, experiential learning focusing on creation of knowledge by the learner.

“Innovative teaching is a proactive approach to integrate new teaching strategies and methods into a classroom.”

In addition to these, there are many basic problems facing higher education in India today. These include inadequate infrastructure and facilities, large vacancies in faculty positions and poor faculty, thereof, low student enrolment rate, outmoded teaching methods, declining research standards, unmotivated students, overcrowded classrooms and widespread geographic, income, gender and ethnic imbalances.

Four basic challenges of Indian Higher Education can be summarized as below:

- a) **The supply demand gap-** India has a low rate of enrolment in higher education, at only 18% compared with 26% in China and 36% in Brazil. There is enormous unmet demand for higher education. By 2020, the Indian Government aims to achieve 30% gross enrolment which will mean providing 40 million university places, an increase of 14 million in six years.
- b) **The low quality of teaching and learning-** The system is beset by issues of quality in many of its institutions; a chronic shortage of faculty, poor quality teaching, outdated and rigid curricula, lack of accountability and quality assurance, separation of research and teaching.
- c) **Constraints on research capacity and innovation-** With a very low level of research enrolment, India does not have enough high quality researchers; there are few opportunities for interdisciplinary and multidisciplinary working, lack of early stage research experience; a weak ecosystem for innovation and low levels of industry engagement.
- d) **Uneven growth and access to opportunity-** Socially India remains highly divided. Access to higher education is uneven with multidimensional inequalities in enrolment across population groups and geography.

Three central pillars of the government's plan for education reflect those realities; expansion, equity and excellence.

So we can conclude that one major drawback of Indian education system is lack of quality of higher education. It may be due to poorly crafted curriculum or use of outdated methodologies. As we are aware that today's education system should aim to create competent, committed and confident

workforce which is able to withstand the pressure of constant improvement through continuous learning. The development of requisite set of skills, commonly referred to as 21st century skills is to be encouraged. The list of 21st Century skills and competencies is given below:

1. Information processing skills
2. Communication skills
3. Media literacy and ICT Literacy
4. Thinking and Problem Solving skills
 - a. Inventive Thinking
 - b. Creative Thinking
 - c. Problem Analysis and solving
 - d. Decision Making
 - e. Logical Thinking
 - f. Critical thinking
 - g. Systems Thinking
5. Interpersonal and Intrapersonal Skills
 - a. Flexibility and Adaptability
 - b. Initiative and Intrinsic motivation
 - c. Social and Multicultural Adaptability and Coexistence
 - d. High Efficiency and Accountability
 - e. Leadership and responsibility

This paper is an attempt to highlight the new pedagogical techniques that shall help to overcome the boredom, monotony of a conventional classroom and shall in turn help to improve the quality of education and fulfillment of goals of education on a whole. New dimensions of learning through constructivist approach are being emphasized. The constructivist approach deals with participative learning, experiential learning focusing on creation of knowledge by the learner. One major challenge of this system is concept of lifelong learning in place of learning over a specified period and in a specified geographical area.

Traditional learning is monotonous, boring and unproductive so participative teaching learning methods are to be used for this first thing is Multimedia Approach.

2. MULTIMEDIA APPROACH TO TEACHING LEARNING PROCESS

Multimedia is defined as Digital integration of Text, Graphics, Animation, Audio, Still images, Motion Video. Multimedia approach uses a number of media, devices, techniques in the teaching learning process. It can convey vast information and provide many sources from which student can access the information and improves the teaching learning process. Multimedia approach is not restricted to a single type of learning style. It can provide the support to wide range of

activities. It aims at providing meaningful learning experience via a mix of media in order to achieve predetermined objectives. Multimedia approach provides the opportunity to gain mastery of competencies and skills. The choice of the media has to be done carefully so that one does not hamper or reduce the effect of the other. That is each media must complement the other. Multimedia approach enables the learner to get access to information in dynamic environment.

3. PROCEDURE FOR ADOPTING MULTIMEDIA APPROACH

The following are the six steps to be followed while adopting the Multimedia Approach

- **First Stage**
 - In this stage the teacher initiates the teaching – learning activities.
 - Teacher deliver a well prepared lesson based on the objectives formulated.
 - Teacher could use a variety of media for his presentation.
- **Second Stage**
 - Teacher demonstrates a specific and specialized unit using a mix of media.
 - The teacher may provide learner with programmed learning materials, cassettes, CD's etc.
- **Third Stage**
 - This is a preparatory stage for the learner before he starts independent learning.
 - The student discusses with peer students and teachers his plan of action.
- **Forth Stage**
 - In this stage the learner actively participates.
 - He uses variety of media and materials in his self-study.
- **Fifth Stage**
 - In this stage the learner integrates theory and practice.
- **Sixth Stage**
 - In this stage learner finds that teaching – learning activities have to be organized on a higher level.
 - The student involved in critical analysis, critical evaluation and exchange of ideas.

Advantages of the multimedia Approach

- Multimedia approach enables the student to represent information using several different media.

- Can arouse the curiosity among the learner and provide them vivid impressions.
- Multimedia can take into account different learning styles – some pupil learn by interpreting text, while others require more graphical representations.
- Can develop a positive attitude among the learners towards the teaching-learning process.
- Multimedia Approach allows for self-pacing
- Technique of simulation can be effectively applied through the multimedia approach.
- Helps in development of higher order thinking skills.
- Multimedia approach provides the student the flexibility of 'any where', 'any time' learning.
- Helps in developing group and interpersonal skills.
- Effective remediation programmes can be implemented through the multimedia approach.
- Multimedia approach can bridge language barriers since audio is not the only means of communication.

Hybrid/Blended learning is a formal education program in which a student learns at least in part through delivery of content and instruction via digital and online media with some element of student control over time, place, path, or pace. While still attending a “brick-and-mortar” school structure, face-to-face classroom methods are combined with computer-mediated activities.

Defining hybrid or blended education is a trickier task than one might think—opinions vary wildly on the matter. In a report on the merits and potential of blended education, the Sloan Consortium defined hybrid courses as those that “*integrate online with traditional face-to-face class activities in a planned, pedagogically valuable manner.*”

Blended Learning can generally be classified into six models:

Face to face driver - where the teacher drives the instruction and augments with digital tools.

Rotation - students cycle through a schedule of independent online study and face-to-face classroom time.

1. Rotation model — a course or subject in which students rotate on a fixed schedule or at the teacher’s discretion between learning modalities, at least one of which is online learning. Other modalities might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. The students learn mostly on the brick-and-mortar campus, except for any homework assignments.

- The Rotation model includes four sub-models:

- **Station Rotation** — a course or subject in which students experience the Rotation model within a contained classroom or group of classrooms. The Station Rotation model differs from the Individual Rotation model because students rotate through all of the stations, not only those on their custom schedules. Lab Rotation
- **Lab Rotation** – a course or subject in which students rotate to a computer lab for the online-learning station.
- **Flipped Classroom** – a course or subject in which students participate in online learning off-site in place of traditional homework and then attend the brick-and-mortar school for face-to-face, teacher-guided practice or projects. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night. Individual Rotation
- **Individual Rotation** – a course or subject in which each student has an individualized playlist and does not necessarily rotate to each available station or modality. An algorithm or teacher(s) sets individual student schedules.

Flex - Most of the curriculum is delivered via a digital platform and teachers are available for face-to-face consultation and support.

- Flex model — a course or subject in which online learning is the backbone of student learning, even if it directs students to offline activities at times.
- Students move on an individually customized, fluid schedule among learning modalities.
- The teacher of record is on-site, and students learn mostly on the brick-and-mortar campus, except for any homework assignments.
- The teacher of record or other adults provide face-to-face support on a flexible and adaptive as-needed basis through activities such as small-group instruction, group projects, and individual tutoring.
- Some implementations have substantial face-to-face support, whereas others have minimal support.
- For example, some Flex models may have face-to-face certified teachers who supplement the online learning on a daily basis, whereas others may provide little face-to-face enrichment. Still others may have different staffing combinations. These variations are useful modifiers to describe a particular Flex model.
- Labs - All of the curriculum is delivered via a digital platform but in a consistent physical location. Students usually take traditional classes in this model as well.
- Self-Blend - Students choose to augment their traditional learning with online course work.

- Online Driver - All curriculum and teaching is delivered via a digital platform and face-to-face meetings are scheduled or made available if necessary.

4 Benefits of Blended Learning

1. Enhanced Communication Skills
2. Increased Digital Fluency
3. Expanded Networking
4. Strengthened Professionalism

ICT can be used as a tool in the process of education in the following ways:

- Informative tool: It provides vast amount of data in various formats such as audio, video, documents.
- Situating tool: It creates situations, which the student experiences in real life. Thus simulation and virtual reality is possible.
- Constructive tool: To manipulate the data and generate analysis.
- Communicative tool: It can be used to remove communication barriers such as that of space and time.
- The moves to competency and performance- based curricula are well supported and encouraged by emerging instructional technologies (Stephenson, 2001). Such curricula tend to require:
 - a) Access to a variety of information sources; forms and types
 - b) Student-centered learning settings based on information access and inquiry
 - c) Learning environments centered on problem centered and inquiry based activities
 - d) Authentic settings and examples
- Teachers as coaches and mentors rather than content experts

A Comparison of a traditional pedagogy and an emerging pedagogy

Aspect	Traditional Pedagogy	Emerging Pedagogy for the information society
Active	<ul style="list-style-type: none"> • Whole class instruction • Little variation in activities • Pace determined by the programme 	<ul style="list-style-type: none"> • Working in teams • Heterogeneous group • Supporting each other
Creative	<ul style="list-style-type: none"> • Reproductive 	<ul style="list-style-type: none"> • Productive

Aspect	Traditional Pedagogy	Emerging Pedagogy for the information society
	learning <ul style="list-style-type: none"> • Apply known solutions to problems 	learning <ul style="list-style-type: none"> • Find new solutions to problems
Integrative	<ul style="list-style-type: none"> • No link between theory and practice • Separate subjects • Discipline based • Individual teachers 	<ul style="list-style-type: none"> • Integrating theory and practice • Relation between subjects • Thematic • Teams of teachers
Evaluative	<ul style="list-style-type: none"> • Teacher directed • Summative 	<ul style="list-style-type: none"> • Student directed • Diagnostic

To summarize, we can conclude that innovative methodologies are beneficiary to students, employers and government as well. To students it means increased access, flexibility of content and delivery, combination of work and education, learner centered approach, self paced learning and higher quality of education and new ways of interaction.

In the recent times we have observed that India is making use of powerful combination of ICTs such as open source software, satellite technology, local language interfaces, easy to use human- computer interfaces, digital libraries etc. with a long- term plan to reach the most remote of the villages. Community service centers have been started to promote e-learning throughout the country.

Major initiatives and policies for introducing innovative pedagogies are:

- Indira Gandhi National Open University (IGNOU) uses radio, television and internet methodologies.
- National Program on Technology Enhanced Learning: a concept similar to the open courseware initiative of MIT. It uses internet and television technologies.
- Eklavya initiative: Uses Internet and television to promote distance learning.
- IIT-Kanpur has developed Brihaspati, an open source e-learning platform.
- Premier institutions like IIM- Calcutta have entered into a strategic alliance with NIIT for providing programs through virtual classrooms.
- Jadavpur university is using a mobile- learning centre.
- IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education program) as emulated

classroom interaction through the use of real time interactive satellite technology.

- National Mission on Education through ICT have been launched recently. Under this mission, a proper balance between content generation, research in critical areas relating to imparting of education and connectivity for integrating our knowledge with advancements in other countries is to be attempted. It has three guiding principles namely, Human resource development, E- content/resource development and building connectivity and knowledge network.
- Indian government has already approved the establishment of National knowledge network (NKN) in 2010. It is a major step towards building a knowledge society without boundary. It is a multi- gigabit, unified, high speed network that aims to connect over 1500 institutions like universities, research institutions, libraries, laboratories, healthcare and agricultural institutions, nuclear, space and defence research agencies in the country.
- Thus we have a long way to go and shall have to show commitment by all stakeholders to bring about a true excellence in teaching learning process.

Some other innovative pedagogy are:

- **Crossover Learning** - An effective method is for a teacher to propose and discuss a question in the classroom, then for learners to explore that question on a museum visit or field trip, collecting photos or notes as evidence, then share their findings back in the class to produce individual or group answers.
- **Learning through Argumentation** -Teachers can spark meaningful discussion in classrooms by encouraging students to ask open-ended questions, re-state remarks in more scientific language, and develop and use models to construct explanations. When students argue in scientific ways, they learn how to take turns, listen actively, and respond constructively to others.
- **Adaptive Teaching** - All learners are different. However, most educational presentations and materials are the same

for all. This creates a learning problem, by putting a burden on the learner to figure out how to engage with the content. It means that some learners will be bored, others will be lost, and very few are likely to discover paths through the content that result in optimal learning. Adaptive teaching offers a solution to this problem. It uses data about a learner's previous and current learning to create a personalized path through educational content. Adaptive teaching systems recommend the best places to start new content and when to review old content. They also provide various tools for monitoring one's progress. They build on longstanding learning practices, such as textbook reading, and add a layer of computer-guided support.

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Andragogy in Adult Education

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Abstract: Arguments regarding differentiating between child education and adult education have existed for decades. As we all know, Pedagogy means “to lead the child,” or in a broad sense it is “the art and/or science of teaching and learning.” In the broadest sense, Andragogy is the study of teaching and learning with adults. It finds its meaning by contrasting it with Pedagogy, arguing that there are important distinctions worth considering when it comes to teaching adults. This paper concludes basic principles of Andragogy, difference between Pedagogy and Andragogy, some of the methods come under Andragogy. The paper also describes various dimensions of the principles of Andragogy i.e., adults must want to learn, adults will learn only what they feel they need to learn, adults learn by doing, adults learning focuses on problem solving, experience affects adult learning, adults learn best in an informal situation, and adults want guidance and consider as equal partner in the process.

1. INTRODUCTION

As far as teaching learning process is concerned, educators and other stakeholders are interested in finding new methods and techniques for the teaching-learning process children. Can we teach the adults in the same way that we teach children? Different people have different learning styles and that is determined by how people learn. Visual, auditory and kinesthetic are the three primary learning styles. Andragogy is an academic discipline focus on the adult education which comprises: reflection, critique, and historical analysis.

2. ORIGIN

Andragogy, is a combination of two Greek words “andr-” means “man”, and “agogus” means “leader of”. Therefore, Andragogy means “leader of man”. The term andragogy was used by German educator Alexander Kapp to refer theory of Plato in 1833 (Howard, 1993). It was developed as a theory of adult education by Eugen Rosenstock-Huussy. Later, Malcolm Knowles developed it into a theory of adult learning (Zmeyov, 1998). Different authors gave different definitions and name as “adult education practice”, “desirable values”, “specific teaching methods”, “reflection” and “academic discipline”, etc.

Basic assumptions of Knowles’s theory of adult learning

The following are the basic assumptions of Knowles’s theory of adult learning:

1. Need to know:- the quest for knowing why learning something.
2. Foundation: -life long experiences of adults lay foundation for further learning.
3. Self-Concept :- adult’s responsibility of planning and evaluation.
4. Readiness :-ready to learn things which have direct impact on the real life.
5. Orientation :- adult learning is problem centered not content oriented.
6. Motivation :-adults learns with intrinsic motivation.

Principles of Andragogy

1) Adults must want to learn

Learner learns when they can direct freely their own learning and have a strong urge to develop novel ideas and skills. Inner excitement and self motivation for learning are required for sustainable learning.

2) Adults will learn only what they feel they need to learn

Adult learners are practical and very particular about what they are learning. Relevance, connection and applicability of the content to be learned will be analysed by the learner and they see how or in what way it will help in their daily life.

3) Adults learn by doing

Adolescents learn by doing, but adults do through an active practice and participation, this helps in integrating compound skills in to a coherent whole.

4) Adults learning focuses on problem solving

Adults acquire knowledge by solving problems. They also search for realistic answers for their meaningful questions. Learning always starts with problems. This kind of learning leads to a long lasting, elaborate and stronger representation of the knowledge. (Craik and Lock Hart, 1972).

5) Experience affects adult learning.

It is strengthening of new and prior knowledge on the basis of experiences.

6) Adults learn best in an informal situation

Adults learn by taking responsibility by the value and need of content they have to understand and the particular goals it will

achieve. Being in an inviting, collaborative and networking environment as an active participant in the learning process makes it efficient.

7) *Adults want guidance and consider as equal partner in the process.*

Adults are not required to be told what to be learned, which are not. Content will be selected by the learners. Learners are able to select their content which will meet their individual needs.

Difference between Pedagogy and Andragogy

	that learning should be done to deal with life situations, solve problems successfully and for self development. Adult audience are told why to learn.	told what to learn.
Motivation	Intrinsic	Extrinsic

Behavior of learner	Andragogy	Pedagogy
	Learners are self motivated and have complete responsibility in what they are learning and how much knowledge to be acquired. They evaluate their learning by themselves. Emphasis is given upon learner centred.	Learner should be directed by teachers/parents to learn. Educators are responsible for how they should be taught. They are following the strategies designed by their teachers. They are evaluated on the basis of how much they are taught.
Experience of learner	Learner's experience becomes major source of learning. Diversity of experiences enhance their learning in many ways.	Learners have limited experiences; it can become only a basis for further learning.
Orientation	Learners wanted to learn through what useful to their real lives and working environment. They seek information which help them to solve problems and relevant to their daily life, issues and task. The knowledge thus acquired is supposed to strengthen their level of performance, so that they can lead a better life.	Young learners' learning is subject centred.
Readiness	Learners realize	Young audience is

3. METHODS OF TEACHING

1) Crossover learning:

In the informal setting learning can link with educational content to learner in their lives. Other hand, in informal setting learning can be enriched by daily life experiences. Informal learning can be deepened by adding knowledge related questions from the classroom. These connections of experiences spark interest and motivation in children to learn. This crossover learning strengths both formal and in formal environment and provide authentic engaging opportunities to learner for learning. This type of learning support wider learning to learners in recording, recalling and sharing their divers learning events.

2) Embodies Learning:

Embodies Learning helps the learner in learning process and interacting with real world .This learning involves self awareness of the body and mind work together so that physical feedback and actions of learner can be applied to the exploration of physical sciences such as friction, acceleration and force.

3) Adaptive Learning:

Most of the educational presentations and materials are same for all but learners are different. This situation creates learning problem. We put burden on learner to figure out how they can engage their self with content. Adaptive learning is a solution for this problem. This teaching uses data about learners' previous and current learning and creates a personalized path through educational content. Adaptive Learning suggests best places to start new content and when to review old content. It helps to provide various tools for monitoring ones' progress and also to build long lasting learning practices like textbook reading. This teaching can be used for classroom activity or in online mode where students control their pace of study.

4) Learning through Argumentation:

Student can advance their learning of understanding by arguing. Argumentation helps student present contrasting ideas which can deepen their learning by argumentation. Through this way students refine your ideas with others. By argumentation teacher can spark meaning full discussion in the classroom and encourage students.

5) *Blended learning*

It is a process of learning combining online educational materials and interaction opportunities along with ordinary classroom teaching.

6) *Mind mapping*

Mind mapping is a diagrammatic representation of concepts and ideas arranged around a central idea. Sub concepts, sub ideas, words, tasks and items are linked using a non-linear graphical layout that allows the user to build an intuitive framework around a central concept.

7) *Flipped learning*

It is an approach in which learning materials are introduced to the students before the actual classroom timing. Students are advised to go deep in to the subject matter by discussing with peers and using problem solving techniques for better understanding.-

4. CONCLUSION

Andragogical approaches are highly motivational. Since adult learners are self directed and more goal oriented, promising fruitful learning experiences can make remarkable change in achieving learning outcomes. Teaching / learning style ranging

from pedagogy-andragogy resulted a change of belief from teacher-centred to learner centered. Still it is a big challenge to differentiate the methods for children and which are for adults. Some of the methods are suitable for both children and adults according to the situation.

It is essential that educators should change their teaching strategies when they come to adult education. Andragogical approaches could be helped to change the philosophy of educators. Learning should be given more emphasis than teaching. Learner should not be remained as passive listeners. Educators and educational systems should provide maximum opportunities to adult learners to engage and participate in each and every aspects of teaching learning process.

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Quality Assurance through Effective Use of Innovative Teaching Learning Tool ‘Edublogs’ in Education

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Abstract: Information and communication technology (ICT) has the potential to improve the quality of education and training (Naicker, 2013). Researchers (Flanagan & Jacobsen, 2003; Naicker, 2013) however, found that principals, teachers have not been prepared to assume the role of ICT leaders at their schools and Institutes have therefore struggled to develop both the human and technical resources necessary to achieve ICT outcomes in Education. This investigative study reports on the effectiveness of an information and communication technology (ICT) tool. Edublogs an web2.0 innovative ICT tool for teaching and learning. The effectiveness of edublogs is studied with respect to the comments received on it by the added users. The study was carried out on 100 student-teachers from the Education department added as users in Edublogs. The analysis was done using percentage analysis by calculating the types and number of comments received on the content based on the syllabus of Critical understanding of ICT in education and Child development added on the Edublogs. The findings highlight ready access to ICT, technical support, appropriate guidance and support by knowledgeable, innovative and committed facilitators and the creation of a sense of community as imperatives for teaching education leaders ICT skills and knowledge also can be concluded from the findings that use of such innovative teaching learning tools like Edublogs and many other such tools can definitely assure quality education at any level be it in school or higher Education and also can make the teaching learning process more innovative and interesting.

Keywords: Innovative pedagogies, ICT, Edublogs, student-teachers, Facilitators.

1. INTRODUCTION

Quality teaching is the use of pedagogical techniques to produce learning outcomes for students. It involves several dimensions, including the effective design of curriculum and course content, a variety of learning contexts (including guided independent study, project-based learning, collaborative learning, experimentation, etc.), using innovative teaching learning pedagogies, using ICT tools, soliciting and using

feedback, and effective assessment of learning outcomes. It also involves well-adapted learning environments and student support services. Experience showed that fostering quality teaching is a multi-level attempt. At three levels the quality as mentioned below can be assured, these three levels are essential and inter-dependent. However, supporting quality teaching at the programme level is key so as to make certain up gradation in quality teaching at the discipline level and across the institution. Support for quality teaching can be manifested through a wide range of activities that are likely to improve the quality of the teaching process, of the programme content, as well as the learning conditions of students.

At the institution-wide level: including projects such as policy design, and support to organisation and internal quality assurance systems.

Programme level: comprising actions to measure and enhance the design, content and delivery of the programmes within a department or a school.

Individual level: including initiatives that help teachers achieve their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner oriented focus.

Some of the initiatives for the teachers as well as learners for quality assurance in Education as can be seen in figure 1:

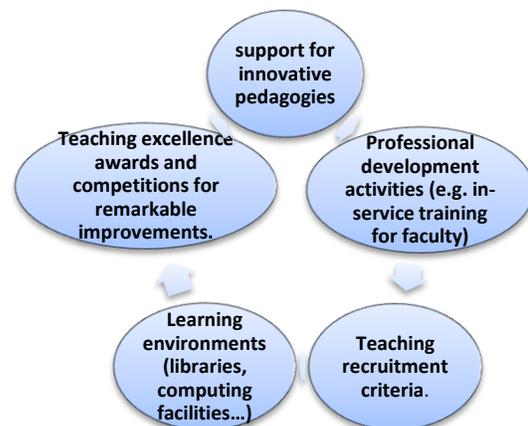


Fig. 1. Showing the initiatives for quality assurance in Education

1.1. Some other initiatives that can be undertaken for quality assurance are:

1. Support to foster student achievement (e.g. counselling, career advice, mentoring...)
2. Students' evaluation, evaluating learning experiences.
3. Self-evaluation of experimentations, peer-reviewing, benchmarking of practices.
4. Community service and work-based programmes, development-based programmes.
5. Competence-based assessments.
6. Communities of teaching and learning practices.
7. Organisation and management of teaching and learning.
8. Support to foster student achievement (e.g. counselling, career advice, mentoring...)
9. Students' evaluation, evaluating learning experiences.
10. Self-evaluation of experimentations, peer-reviewing, benchmarking of practices.
11. Community service and work-based programmes, development-based programmes.
12. Competence-based assessments.

2. EDUCATIONAL WEB 2.0 FOR 21ST CENTURY SELF DIRECTED LEARNING:

These new technologies extend learners new opportunities to be independent learner through self- directed learning. These technologies also help to promote a broader range of expressive capabilities. "Many education researchers agree that today's students are digital natives and also possess a mindset befitting the information-age (Frاند, 2000)". This also is reflective from the advancement of Web 1.0 to Web 2.0 which shows the revolutionizing of mindsets of the learners. New tools offer a novel direction for the way of thinking in education. The web 2.0 tools like blogs, wikis, are natural tools for writing instruction, for brainstorming to organizing writing, peer review, revisiting, also enables the learners or the users to lend themselves in writing process. Blogging is a very good example of how young students are using technologies to articulate their imagination and innovation. Blogging caters to multifarious needs of the student's, it is just not a simple tool related with homework, but also a vital tool which a student needs to interact with other students, to collaborate and co-produce material and to interconnect with a wider audience. The prospects of blog technology for resourceful learning and innovative teaching can be oppressed in schools and institutes of higher education, that can in turn help in quality assurance.

There are reasons that will encourage one to use such tools like Edublogs in the teaching learning process the only things required are interest, focus, consistency, desire to integrate technology into Education which is also the need of today's digital era, passion for writing, reading and creating something new in education. Edublogs is one of such platforms that helps to share new information, ideas and allow comments, respond to comments as these are not monologues but are dialogues which helps to enrich our thoughts, content that is posted and will take you to a high level of analysis and gives a feedback to make corrections, additions, tips from the readers .

3. STATEMENT OF THE PROBLEM

On the basis of the above account the researchers chose the following problem for Study:

"Quality assurance through effective use of innovative teaching learning tool 'Edublogs' in education."

4. OBJECTIVES OF THE STUDY:

To study the purpose of use of Edublogs by B.Ed Student-teachers.

5. METHODOLOGY OF THE STUDY:

The present study is an investigative study on integration of ICT in education on student teachers of B.Ed. It explores the role of blogs in developing ICT skills and the usefulness of such innovative pedagogies by student teachers for quality assurance. Investigative study very often relates to field study and research in which the area of study is defined and the variables are explored in depth. In the present study, comments received on the content posted related to their subjects were analysed and also their skill enhancement in using ICT tools are explored. Edublogs, can be used for varied purposes. Some users may use blogs just to refer to the information posted on it, others may ask for more information, yet some may comment on or add to the already posted information. In the present study, purpose of use of Edublogs was seen in terms of whether the users use blogs to view the posts, seek further information, seek new information, add a comment, add further information or add some new information.

Therefore, to study the purpose of use of Edublogs by the student- teachers the total comments received on the Edublogs as well on self made perception scale were analysed, the total comments received were categorised into seven different categories and then analysis was done using percentage analysis.

6. SAMPLE:

A sample of 100 student teachers of B.Ed course from a college located in Delhi city was chosen purposively for the study. The sample included both male and female student teachers.

7. PROCEDURE:

The student teachers were given orientation regarding Edublogs and its use in education. All the added users had visited the Edublogs created by the researchers for approx 2 months, the questionnaire developed by the researchers was administered to the total sample (N=100).

8. SCORING:

For scoring, the total comments received on the Edublogs along with the comments on the perception scale by the sample

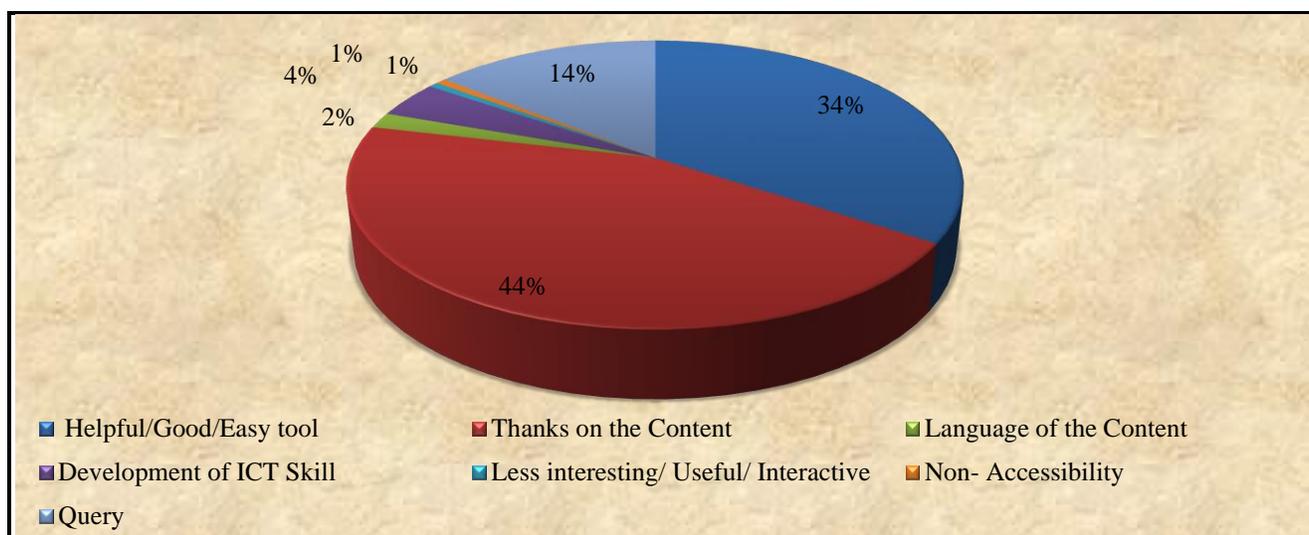
after 2 months were counted together. Then, the item wise scores were tabulated to obtain scores on different aspects.

9. ANALYSIS AND INTERPRETATION:

Analysis and interpretation was done using percentage analysis. The data and their interpretation related to the aspects of the study is as follows:

TABLE 1: Comments received on the Edublogs by B.Ed. students

Category	Comments/Categories	B.Ed. (no. of comments received)	B.Ed. (Comments in terms of %)
1.	Comments on the Edublogs like helpful/good/easy to use/interactive/accessible/learning tool, will help in quality teaching learning also.	58	34.3%
2.	Comments related to thanks and on the content posted on Edublogs, supports Innovative teaching pedagogy.	75	44.3%
3.	Comments on language of the content posted on Edublogs.	3	1.77%
4.	Comments related to development of ICT skill/high order thinking/cognitive skill.	7	4.14%
5.	Less interesting /useful/interactive tool	1	0.59%
6.	Difficulty in assessing the Edublogs due to lack of skill/spam/internet/any other.	1	0.21%
7.	Information regarding any query related to Edublogs/content posted on Edublogs	24	14.2%
	Sum	169	100%



Graph 1. Comments of B.Ed. student-teachers

The analysis of the above data shows that majority of respondents consider this as the matter of fact that Edublogs

are helpful to them, when the total comments under different categories were analysed it was found that maximum types of

comments received from B.Ed. student-teachers were related to category 2. (44.3%), which were related to 'thanks' for the content posted on the Edublogs and also they felt that use of such ICT tools supports Innovative teaching pedagogy. Comments related to Edublogs like helpful/good/easy to use/interactive/accessible/learning tool, will help in quality teaching learning also were received from the B.Ed. student-teachers as seen in category 1 were (34.3 %). Some other comments were those related to Information regarding any query related to Edublogs/content posted on Edublogs was (14.2%). The analysis indicates that B.Ed. student- teachers were actively engaged in making use of the Edublogs because they had queries, asked for more information regarding topics through the Edublogs as can be seen from the percentage analysis and also they found Edublogs to be a good innovative ICT tool that can definitely support the teaching learning pedagogic practices and ensure quality education for the learners of all the age groups.

10. CONCLUSION

The study highlights the importance of ready access to Edublogs and also the findings also suggest that Edublogs are helpful/good/easy to use/ interactive/accessible/learning tool, will help in quality teaching learning technical support, appropriate guidance and support by knowledgeable, innovative and committed facilitators. Though Edublogs are capable of playing an important role in the pedagogical interventions in curriculum, still there is a lot of scope for incorporation of skill and training in respect to its incorporation in teaching environment. Along with the skill, interest, attitude and training related to the use of such tools in education there is a need for the knowledge about these tools and their application in pedagogical curriculum and also the availability of good conditions in terms of internet connectivity, infrastructure facilities to use ICT resources and tools in the educational system with all these it would definitely prove to be a great support for quality assurance in education.

Graduates are entering a world of employment that is characterised by greater uncertainty, speed, risk, complexity and interdisciplinary working. University education, and the mode of learning whilst at university, will need to prepare students for entry to such an environment and equip them with appropriate skills, knowledge, values and attributes to thrive in it. There is a strong drive to build and create knowledge together with an understanding of working life and reformulate the concept of knowledge in learning situations. Quality Education will require institutions to continuously become accustomed to such pedagogies while upholding quality standards. Quality teaching and learning matters but not all actors in higher education think it a main concern understand and recognise what constitutes quality teaching, or are keen and able to play a role in ensuring that it takes place in their institutions.

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Constructivism as an Innovative Pedagogical Approach of Mathematics Teaching-Learning

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Abstract: *Constructivism is an innovative Mathematics Teaching Approach as it takes the assurance of quality learning. Constructivism is a concept that has drawn attention in recent years. Constructivism focuses on knowledge construction. Constructivism considers that learning is determined by the interplay among learner's existing knowledge, the social context, and the problem that is to be solved. This paper presents the concept of constructivism and importance of constructivism in Teaching- Learning Process. The main characteristics of a Constructivist Classroom are also described in the paper. The paper discusses the role of teacher in a constructivist Classroom and how constructivism can be used in Mathematics Teaching-Learning Process. Some examples of using constructivist approach in mathematics are also presented in this paper.*

Keywords: *Constructivism, Mathematical Operations on Integers, Integer Tiles*

1. INTRODUCTION

Constructivism is a learning theory found in psychology which explains how people might acquire knowledge and learn. It therefore has direct application to education. The theory suggests that humans construct knowledge and meaning from their experiences. Constructivism assumes that the people construct their own knowledge about the world through experiencing things their own and reflecting on those experiences. According to constructivism learning is an active and constructive process and the learner is the knowledge constructor. Learners actively construct their own mental representation of world reality. This mental representation is subjective.

Importance of Constructivism in Teaching-Learning Process: Constructivism helps in creating a learning environment that provides an opportunity to think divergently in realistic, relevant and social context. So, the importance of constructivism in Teaching-Learning can be understood by the given points:

- Constructivism provides different experiences of knowledge generation processes to the learner.

- It provides experiences for considering multiple perspectives.
- It the uses of realistic and relevant contexts during learning instead of artificial and irrelevant contexts.
- It encourages ownership in the learning process in terms learner is provided a feeling that he is able to construct his own knowledge.
- It provides place to social experiences during learning instead of isolated/segregated learning that helps in collaboration and social negotiation among students.
- It encourages the learner to use his own abilities, thinking process, techniques and tools in the knowledge construction process. In this way a learner can identify and reform his own capabilities.

Characteristics of a Constructivist Classroom: A constructivist classroom has the characteristics of reforming learning environment, activities according to student's need and interest. It focuses on student's difficulty. The main characteristics of a Constructivist Classroom are as:

- Constructivist Classroom helps the teacher to interpret students' difficulties during learning to understand the student's learning process.
- It provides guidelines for developing more efficient teaching and learning strategies for further classes.
- In a constructivist classroom learning is always considered as an active construction by the learner.
- In Constructivist classroom student-centered approach is followed i.e. the focus is always on the students, their interests, their learning skills and their needs.

Role of a Teacher in a Constructivist Classroom: A teacher plays an important and major role in a constructivist classroom as compare to a traditional classroom. He works as a guide and facilitator in teaching-learning process. A teacher has following responsibilities in a Constructivist Classroom:

- He has the responsibility to create a realistic and relevant environment for quality learning.

- He formulates instructional objectives but do not impose them on learners i.e. the objectives are negotiable.
- He presents real-world problems and motivates to solve them by realistic approach.
- He doesn't work himself as a primary source of information but works as a means to approach the source of information i.e. he helps the students to reach out the required information instead of providing it by lecturing.
- He encourages the students to solve the given real-life problem/challenge using their previous knowledge and correlating it with existing knowledge.
- He tries to evoke the student's thinking process rather than imposing his own ideas or text-bookish ideas.
- He encourages discussions in the constructivist classroom so that different perspectives/views about the presented problem can be collected.
- He encourages formulating a shared knowledge among students.
- He promotes student leadership, initiative, autonomy and collaboration.

Some Examples of using Constructivist Approach in Mathematics Teaching-Learning: The different rules of basic four operations on Integers can be created by using Constructivist approach instead of rote memorization of them. The create the learning environment the teacher can introduce 'INTEGER TILES' and after giving the basic concept of Integer Tiles, he can use it to create Mathematical Rules regarding Integers.

Integer Tiles are of two colours : Red and Blue. Its shape can be circular or square. Red Tile represents 'NEGATIVE INTERGER' and Blue Tile represents 'POSITIVE INTEGER'. The value of group of one red tile and one blue tile is considered as zero. It can be represented by "figure 1".

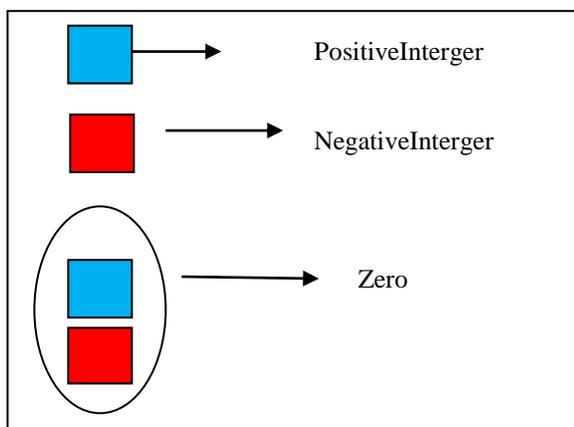


Fig. 1. Representation of Integer by Integer Tiles

To add the two integers suppose $(+3)$ and (-5) the teacher/student take 3 blue tiles in first row and five red tiles in second row. Now he can make three groups of one red tile and one blue tile. The value of each of this group will be zero. Now by using inductive method, solving similar problems with integer tiles and through appropriate questioning and discussion the students can be able to drive the rule that 'when one positive and one negative integer is added then the process will be of subtraction and the sign will be of that integer that has greatest numerical value. It can be represented by "figure 2".

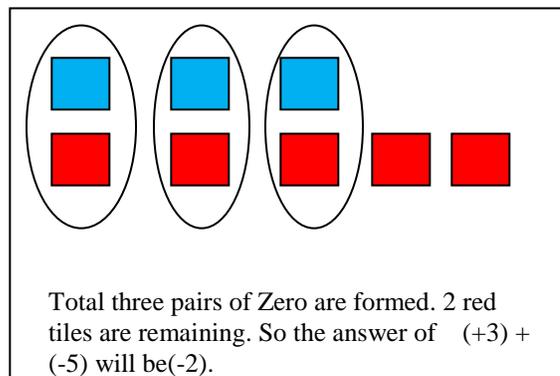


Fig. 2. Addition of Integers by Integer Tiles

The Process of subtraction, multiplication and division of Integers using Integer Tiles are represented in "figure3", "Figure4" and "figure5" respectively and different rules of the operations of integers can be created by the learner by inductive method and appropriate questioning.

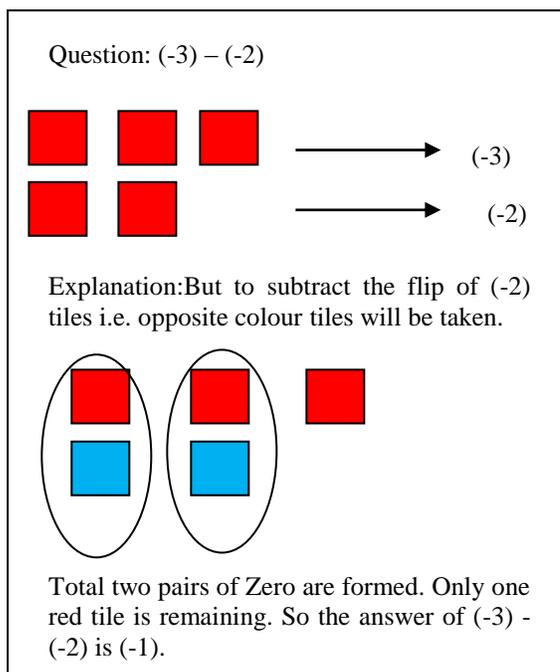


Fig. 3. Subtraction of Integers by Integer Tiles

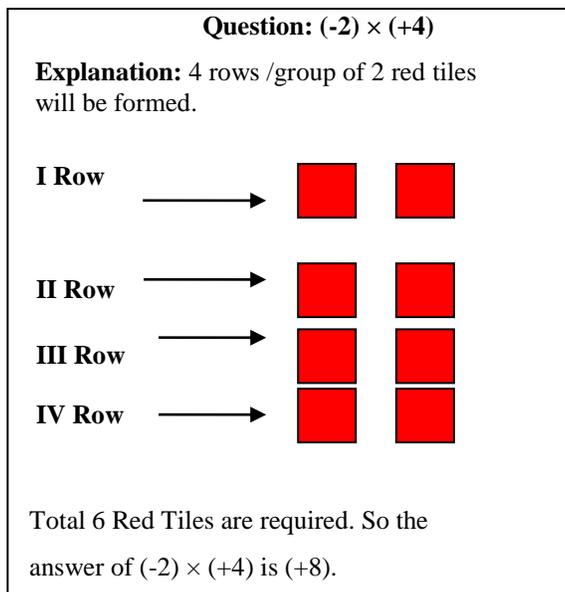


Fig. 4. Multiplication of Integers by Integer Tiles

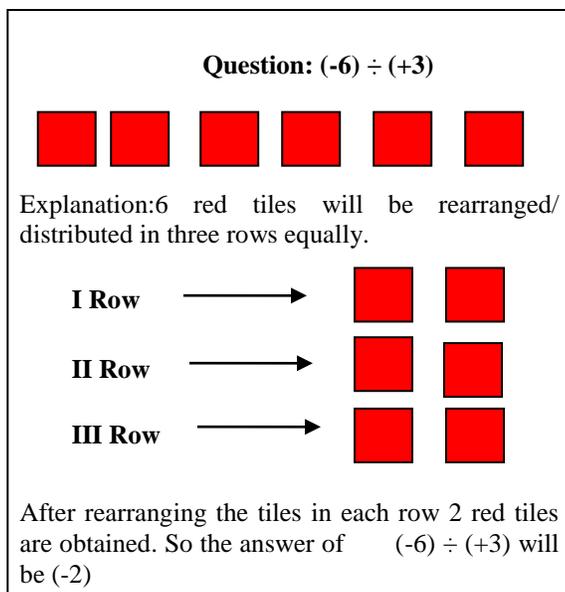


Fig. 5. Division of Integers by Integer Tiles

2. CONCLUSION

In this way, it can be concluded that if constructivist approach is implemented in Mathematics teaching-learning process then it can reduce the rote-memorization of Mathematical rules, formulas and can develop self-confidence among students as they have created these rules and formulas themselves. They will not suffer with the fear of forgetting the rule, formula. This approach certainly assures that the learning will be long-lasting. But also the issue is that it is not possible to implement this approach with higher level Mathematics and to create each and every formula.

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Artificial Intelligence and Virtual Reality - Latest Tools in the Teaching-Learning Landscape

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Abstract: *Technology has changed our lives completely. Education landscape is so strongly affected by the dynamism of technology, that the stakeholders are finding it difficult to adopt. There is also a need to provide life-long education for all citizens and to support a flexible workplace. Virtual worlds promise to deliver the best aspects of both real-world classrooms and online distance learning into a single platform. With tools that provide avatars that represent the educators and the students, voice and video capabilities, PowerPoint and other collaborative whiteboard technologies and group and private messaging chat, educators are finding that the newest generation of virtual worlds can simplify the lecture and presentation process, allow students to ask/answers questions to their teacher or each other (without interrupting the lecture), socialize and learn in a very streamlined manner. Most importantly it allows students to visualize abstract concepts, to observe events at atomic or planetary scales, and to visit environments and interact with events that distance, time, or safety factor make unavailable. These types of activities supported by artificial intelligence and other virtual technologies promote current teaching – learning process to be better able to deliver, master, retain, and generalize new knowledge. Active involvement in constructing that knowledge in a hand on learning environment. This paper tries to explore the use of artificial intelligence and virtual reality as teaching- learning tool that changes the overall experience of the both teachers and students in the nova landscape of education.*

Keywords: *Artificial Intelligence, Virtual Reality, Teaching, Learning, Education Landscape*

“The Future belongs to the curious”

1. INTRODUCTION

Artificial intelligence, with its digital and dynamic nature, is progressing at an accelerated pace. A profound impact is also seen in the nature of services within the education sector. There is also a need to provide life-long education for all citizens and to support a flexible workplace. As regards Education, it should be pointed that the increase in the use of Information and Communication Technologies (ICTs) requires the construction of a new pedagogical model in which the educational activities for the apprehending of reconstructed

knowledge promote the use of its resources to assist human beings to overcome physical, social, and cultural barriers universally. The constant evolution of the technology is taking the education to new ways, much more attractive to the students, making possible the use of new tools, taking to an evolution on the teaching process. The Virtual Reality takes an important place in this evolution. AI and VR technology has been widely proposed as a major technological advance that has potential to support for such education. Artificial Intelligence(AI) and Virtual Reality (VR) involves revolutionary technologies in the development of applications, as a result of the new possibilities it gives to the man-content interface, via multi-sensorial devices, navigation in three-dimensional spaces, immersion in the context of the application and real time interaction. (Costa et al, 2009) state that AI and VR is the most natural of the Man-Computer Interfaces (MCI) due to its potential for multi-sensorial interaction. This means that, through this technology, the computer-generated virtual environment can provide the user with interaction with the use of senses (sight, hearing, touch and, more recently, smell). Apart from that, due to the manipulation of objects and movement in the environment happening in real time, the authors believe that the big advantage of this interface lies in the fact that experiences occurring in the physical world can be intuitively changed with the help of technology.

2. CONCEPT OF ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY

Artificial intelligence (AI), deep learning, machine learning and neural networks represent incredibly exciting and powerful machine learning-based techniques used to solve many real-world problems. For a primer on machine learning, you may want to read this five-part series that I wrote. While human-like deductive reasoning, inference, and decision-making by a computer is still a long time away, there have been remarkable gains in the application of AI techniques and associated algorithms. Virtual reality can be defined as a three-dimensional, computer-generated simulation in which one can navigate around, interact with, and be immersed in another environment. In this sense, "virtual" is derived from the concept of "virtual memory" in a computer, which acts "as if" it is actual memory. Virtual reality provides a reality that mimics our everyday one. Virtual reality is not just a set of

devices, but a medium for expression and communication. Virtual reality is a means to create, experience, and share a computer-generated world as realistic or as fanciful as you would like. Head-mounted displays, data gloves, and other devices are only tools to help us experience this parallel world. Virtual reality, in general, refer to the an immersive and interactive experience based on graphic images in 3D generated in real time by computer, in other words, it is a simulation generated by a computer, about a real or just an imaginary world. Another definition, more specific is: virtual reality is a computer interface that permits the user to interact in real time, in a tridimensional space generated by a computer, using their feelings, through special devices (Kimer, 2012). The user can notice the virtual world, through a window built by the monitor screen or by projection screen or it can be inserted in the real world through a helmet (HMD) or multi projections rooms (caves) and interaction devices (Kimer, 2012). In the history of the Computer Sciences, VR was, until recently, rated as a new technology, because of its dependence on technological advances that were associated to the processing of computer systems and the standardization of equipment conceived for interaction.

3. CHARACTERISTICS OF ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY

The world has entered into the digital age, and technology has touched every part of the human life, whether it is business, communication, travel, health, or education. The global education system has taken it hands-on and the implications of advanced technology have created wonders in this field. From Artificial Intelligence and Machine Learning to automation and digitization, the global learning sector has been among the segments most benefitted from technology. The technological revolution has been permitting the use of new approaches in the teaching-learning process. One of the conductive technologies to the building of innovative tools for the education is the Virtual reality, which offers tridimensional computer environments with advanced forms of interaction that can provide more motivation to the learning process. According to (Clark, 2006) the Virtual Reality can be used to make the learning more interesting and fun with the purpose of improving the motivation and attention, decreasing costs when using the objective and the real environment no matter how expensive the simulation is. It also makes possible that situations that were impossible to explored in the real world can be done, for example: exploring a planet like Mars, traveling inside the human body, doing submarines explorations or inside caves, visiting very small places to be seen (molecules) or very expensive or very far away, or yet because this place is in the past (historical places). There is no doubt that the advances and the appropriation of the Web by part of the society in the world have forced the domain of Education to think about new ways for distance Education. Virtual Reality is a high-end user interface that involves real time simulation and interaction through multiple sensorial

channels like visual, auditory or tactile. VR falls into three major categories: text-based, desktop and immersive VR.

Text-Based Network AI and VR involves real-time environments described textually on the Internet where people interact by typing commands and "speak" by typing messages on their computer keyboards. This has been valuable in distance education (Psootka, 1994).

Desktop AI and VR is an extension of interactive multimedia involving three-dimensional images and ads to the experience of interactive multimedia without being considered immersive.

Immersive AI and VR, involves a mixture of hardware, software and concepts that allow the user to interact with a three dimensional computer generated "world" (Loeffler & Anderson, 1994).

AI and VR is the 'generic' name that represents a technology through which the user can freely visualize, explore/manipulate, and interact with complex data in real time (Alves et al., 2011). With the grouping of other concepts, one can say that AI and VR is an advanced technical interface capable of providing the user a feeling of immersion (feeling of being in the environment), of browsing and interaction in a computer-generated synthetic tri-dimensional environment, using multi-sensorial channels. (Kirner and Sicouto, 2007) states that a AI and VR system can be synthetic (generated in real time), tri-dimensional, multi-sensorial, immersive, interactive and realistic (reproduction of real objects) with presence. Therefore, we can consider it as a tri-dimensional graphical environment that integrates audio, generating in real time and that allows interactivity. Immersive VR logically provides more possibilities for interaction and involvement. However, depending on the goals and possibilities, non-immersive VR can be a feasible choice, as it is easy for developers (there is no need for writing special drivers or doing very complex programming) and for users (can experience the virtual environments with simple hardware configuration settings and in any place). One characteristic of this technology that interests education is its adaptation to different forms of learning, that is, cognitive styles. For people with problems to understand equations, theories, and principles, AI and VR can be used to make this type of information concrete. For those with a taste for the visual and not the verbal, which prefer graphics and images rather than explanations and formulae, AI and VR is again useful, especially because of its highly visual aspect. As regards those that would rather learn through exploration instead of deduction, AI and VR can enable a detailed analysis that would often have been impossible by other means. Finally, for those who learn better by actively interacting with the environment, instead of learning in a reflexive way, with thinking and introspection, AI and VR environments can be highly interactive, allowing the direct manipulation of environment elements that respond to the actions of the user in real time. (Young, 2000) states that the insertion of VR technology in DE contributes to increase the quality of the

educational processes as the access to the own contents and communication of DE can be strengthened by a report of experiences had in real time. Apart from that, the so-called monitor AI and VR contributes to the humanization of DE, as it allows the student the personal impression resulting from the selection of individual routes and the use of the elements of interaction, setting the number of times for manipulation and / or the time of permanence at the place in the virtual world that attracted one's attention the most.

4. CONTRIBUTION OF MODERN TECHNOLOGIES IN EDUCATION

Up until now, it has been impossible to objectively conclude how well a student understands a subject because we have limited human power. Learning skill-sets requires students to grasp multiple aspects. Hence, a fair assessment should evaluate a student on both their strengths and areas that need improvement. One of the conductive technologies to the building of innovative tools for the education is the Virtual reality. The Virtual Reality takes an important place in this evolution, which offers tridimensional computer environments with advanced forms of interaction that can provide more motivation to the learning process. The human forms of apprehension are multi-mode in their nature (Treviranus, 2004) and, as regards the constructivist premises of learning, this means placing the student at the center of the learning process, giving her/him the tools necessary for this experience and appraisal to Promote the learning and cognition goals i.e. :

- Improve learning performance: some documented experiences note that there is a significant increase in users performance for understanding abstract problems when exploring 3D world with objects that represent abstract entities (Carpenter, 96).
 - Facilitate usability and enhance high interaction: for the navigation and manipulation of synthetic environments, (Mikropoulos, 96) states that the use of a glove with haptic feedback is a more direct approach to the interaction with virtual objects than the one provided by a mouse. The testing indicates that the use of this kind of devices improve the interaction with virtual learning environments.
 - Revive unreachable learning experiences: (Kato's, 96) work with virtual learning environments has shown that placing the users in known real places but providing them with improbable perspectives in other time, via AI and VR, enables them to revive the original experience with fully awareness.
 - Stimulate high levels of involvement and give multiple perspective sensorial experiences: (Dede, 96) describes the use of virtual environments to provide multi sensorial experiences for better understanding abstract concepts. Multi sensorial interactive experiences involve the learner and stimulate understanding and learning.
- Help to reconstruct and navigate through nonexistent environments: there are ongoing efforts to reconstruct historical places for later exploration and study in AI and VR. The virtual reconstruction of ancient Egyptian ruins is described by (Littman, 96).
 - Foster disabled learner accessibility: transduction can be used to describe abstract phenomena into perceivable representations of any type of media, compensating the lack of any of the users' senses. For instance, there is an approach taking profit from 3D sound technology to enable visually impaired users to access information systems (Lumbreras, 96).

AI and VR acts here as a tool capable of meeting the educational needs in distance teaching contexts, as it entails different cognitive styles and sensations of the outside world. VR rises as a new interface generation where, using tridimensional representations that are closer to the reality of the user, it allows breaking the barrier of the screen, enabling natural interactions (Kirner and Siscouto, 2007)

AI and VR systems also have the characteristic of uniting four basic ideas: immersion, interaction, presence, and involvement:

- a. *Immersion* – Apart from the visual factor, the devices connected to the other senses also are important for the feeling of immersion, such as sound, automatic positioning of the person and of the movements of the head, force feedback controls, etc. The user has the real sensation of being inside the virtual world of the computer. Devices that make this sensation: digital helmets and digital cave.
- b. *Interaction* – The idea of interaction is connected to the capability of the application to detect the inputs from the user and immediately change the virtual world and the actions in it (reactive capability). People are captivated by a good simulation in which one can see the scenes change in response to one's commands (this is the most striking characteristic in videogames), the user manipulates virtual objects. Devices that make this sensation: digital gloves.
- c. *Presence* – obtained through multi-sensorial sensations (Costa, 2001);
- d. *Involvement* – this idea links to the degree of motivation that drives the user to run a given activity. The involvement can be passive, such as reading a book or listening to good music, or active, in taking part in a game with other people. VR has potential for the two kinds of involvement when, apart from allowing the exploration, also provides user interaction with a dynamic virtual world, exploring of a virtual environment, it's as if the user took part of the virtual world and he can interfere directly in result of the application, the user can navigate on the virtual environment in a passive or active way.

5. IMPACT OF TECHNOLOGIES ON TEACHING-LEARNING PROCESSES

Education—rather, learning, in general—is based on society’s understanding of what is important and what our future generations ought to know to take the next leap for humanity. But, we live in a time where changes are perpetual, hence it is difficult to keep close track of current trends and redesign education at every step of the way. There is no doubt that the advances and the appropriation of the Web by part of the society in the world have forced the domain of Education to think about new ways for distance Education. More than the ease of access to information, the education seeks to incorporate new manners of shared learning and in a networked way (to avoid the isolation characteristic of the 1990s). There are several ways in which VR technology is expected to assist learning. Most importantly it allows students to visualize abstract concepts, to observe events at atomic or planetary scales, and to visit environments and interact with events that distance, time, or safety factor make unavailable. The types of activities supported by this technology promote current educational thinking that students are better able to master, retain, and generalize new knowledge when they are actively involved in constructing that knowledge in a hand on learning environment. Immersion in AI and VR is achieved with the disappearance of an artificial interface, replaced by natural everyday’s actions present in the real world. This is one of the key aspects of AI and VR that brings together many researchers to support immersion of it and justifying the use of AI and VR in education, such as:

- AI and VR to enable the student to reflect on his or her own needs and potentials, contributing to the development of a critical consciousness about the contents that are relevant for the educational process, allowing them to decide when and how to use the knowledge acquired.
- AI and VR enable first person experiences, which are natural and personal, generating direct, subjective and personal knowledge.
- AI and VR provide a less symbolic interaction with the environment. Any description of an experience or action is usually transmitted through of symbols, conventions and formalisms, meaning that traditional learning of a concept require previous knowledge of symbiology.

The modern technologies presents an opportunity of learning with a real situation, but artificially created, facilitating the visualization and the interaction sensation with the study focus. When we can’t have the real experiences, the Virtual Reality is irreplaceable. The simulation in the AI and VR also permits us to be in hard and dangerous situations, which aren’t usually accessible in the real world. Furthermore, the AI and VR permit to take to the students complex themes of hard learning and sometimes impossible to show. Reasons to use virtual reality can parallel all the reasons one would use a two dimensional, computer-assisted instruction simulation

(Pantelidis, 1993). At every level of education, virtual reality has the potential to make a difference, to lead learners to new discoveries, to motivate and encourage and excite. The learner can participate in the learning environment with a sense of presence, of being part of the environment. The reasons to use virtual reality in education and training relate particularly to its capabilities. (Winn, 1993), in a conceptual basis for educational applications of virtual reality, states that

- AI and VR furnish first-person non-symbolic experiences that are specifically designed to help students learn material.
- These experiences cannot be obtained in any other way in formal education.
- This kind of experience makes up the bulk of our daily interaction with the world, though schools tend to promote third-person symbolic experiences.
- Constructivism provides the best theory on which to develop educational applications of AI and VR.
- The convergence of theories of knowledge construction with AI and VR technology permits learning to be boosted by the manipulation of the relative size of objects in virtual worlds, by the transduction of otherwise imperceptible sources of information, and by the reification of abstract ideas that have so far defied representation”.

AI’s and VI’s ability to transform the education sector is five-pronged -

1. Students could get additional support from AI and VI tutors
2. It power can be leveraged during assessments
3. It reduces time spent on grading
4. It lends itself to personalized education
5. It shifts through cluttered content and it can point out places where courses need to improve

6. FUTURE SCOPE OF ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY IN TEACHING-LEARNING

In India, the importance of a developed education sector is amplified by a large youth population. Estimates indicate that currently over half the population of the country is below the age of 25. As the adoption of digital means of gathering data increases, it is important that these methods are effectively leveraged to deliver improved education and teaching. Winn concludes that “AI and VR promote the best and probably only strategy that allows students to learn from non-symbolic first-person experience. Since a great many students fail in school because they do not master the symbol systems of the disciplines they study, although they are perfectly capable of mastering the concepts that lie at the heart of the disciplines, it can be concluded that VR provides a route to success for children who might otherwise fail in our education system as it

is currently construed". (Pantelidis, 1995) gives the following reasons to use virtual reality in education:

- Academia worldwide is implementing and utilizing AI in administration, learning, tutoring, grading, and assessments. The outcomes of amalgamating technology with innovative learning process have absolutely revolutionized education systems across the globe.
- Virtual reality provides new forms and methods of visualization, drawing on the strengths of visual representations. It provides an alternate method for presentation of material. In some instances, AI and VR can more accurately illustrate some features, processes, and so forth than by other means, allowing extreme close-up examination of an object, observation from a great distance, and observation and examination of areas and events unavailable by other means.
- AI and VR motivate students. It requires interaction and encourages active participation rather than passivity. Some types of virtual reality, for example, collaborative virtual reality using text input with virtual worlds, encourage or require collaboration and provide a social atmosphere.
- AI and VR allow the learner to proceed through an experience during a broad time period not fixed by a regular class schedule, at their own pace. It allows the disabled to participate in an experiment or learning environment when they cannot do so otherwise. It transcends language barriers. VR with text access provides equal opportunity for communication with students in other cultures and allows the student to take on the role of a person in different cultures.

(Mantovani, 2001) discusses these potential benefits of the use of AI and VR in education and training: visualization and reification, an alternate method for presentation of material; learning in contexts impossible or difficult to experience in real life; motivation enhancement; collaboration fostering; adaptability, offering the possibility for learning to be tailored to learner's characteristics and needs; and evaluation and assessment, offering great potential as a tool for evaluation because of easy monitoring and recording of sessions in a virtual environment.

7. CONCLUSION

Today, AI and VR has left no sector untouched by its innovations and novelty. Its contributions to the educational sector, especially, have been most beneficial because education forms the basis of all knowledge and progress. Therefore, empowering and updating educational systems with AI has resulted in better impartment of knowledge and thorough and worthy evaluation of assessments by making them less of a blackbox. One of the challenges in working with instructional media is that developers and educators are confronted with a rapidly moving target in terms of information technology's capabilities. The education can be seen as a discovery,

exploration and observation process, besides the eternal construction of the knowledge. With this, the specific characteristics of the AI and VI can transform it in a mighty tool in service for everybody who seeks for an education evolution.

Many things that until short time ago were dreams, nowadays, with the current technological advances became reality. The constant evolution of the technology is taking the education to new ways, much more attractive to the students, making possible the use of new tools, taking to an evolution on the teaching process. The technological revolution has been permitting the use of new approaches in the teaching-learning process. According to surveys, 75% of teachers in USA and other countries believe that printed books will entirely be replaced by digital learning tools. India, being one of the leading developing countries, is following the trend and adopting innovative technology and AI in the education sector as well. The adoption of technology in education is improving, though not at the pace required. It is estimated that schools globally spent nearly USD160 billion on education technology, or 'EdTech', in 2016, and forecast spending to grow 17% annually through 2020. The big question is are we ready for it!

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Emerging Role of ICT for Quality Assurance in Higher Education Sector in India

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Abstract: *In recent years, role of ICT has increased manifolds. Technology increasingly is being used to personalize learning and give students more choice over what and how they learn and at what pace, preparing them to organize and direct their own learning for the rest of their lives. In the light of this development, this paper examines the emerging trends of ICT which has strong influence on quality assurance in higher education in India. Technology has become essential in order to prepare students for challenges of future workplace which is constantly evolving due to fourth industrial revolution. Some of the recent or future trends in technology of education are: E-learning or cloud learning, Use of Analytics in Education, Developing Cultures of Entrepreneurship and Innovation, Collaborations and partnership between Educational Institutions, Analytics companies, Proliferation of Open Educational Resources/MOOCs, New Forms of Interdisciplinary Studies and redesigning learning Spaces. Educational institutions and academia will have to adapt to the changing scenario of education sector to stay in demand. The role of teacher is also going to become even more important and evolve from being an instructor to facilitator.*

Keywords: *Higher Education, Big Data, Artificial intelligence, Massive online open courses (MOOCs)*

1. INTRODUCTION

Higher Education has always been important not only to individuals for the sake of enriched lives, greater earning capacity and higher status but also to the economy for the sake of economic prosperity. Skilled human resources have always been considered to be the biggest assets of a modern & progressive country. However, the relevance of skill development has never been greater than present time. In today's Internet age, industrial battles are fought not only on scale of capital investment but on knowledge. With the advent of technology, new developments can be seen in education sector also. Big Data analytics is changing the way educational institutions are designing courses and learning experiences, vast advancements in Artificial intelligence has changed the need and requirement of industry in turn affecting the demand and course curriculum of courses. Thus, higher education, today face unprecedented challenges that educational institutions will have to address. Some challenges are solvable

yet some challenges demand more attention from all stakeholders.

Regarding the major obstacles for higher education, authentic learning experiences and an advanced need to improve digital literacy are considered to be the solvable challenges—those that are already being addressed by programs at individual institutions. Challenges for which solutions remain difficult to scale include advancing digital equity and adapting traditional organizational models to more flexible designs that advance the future of the workplace. The experts identified political and economic pressures as those that create a wicked challenge—one that is difficult to define and even more challenging to solve. Similarly, rethinking the roles of educators is also considered a complex problem to define and solve. As educational technology is rapidly advancing and evolving, it is difficult to discern how to overcome these challenges to advance and scale technology adoption to increase student success, at least in the discernible future. (EDUCAUSE-Horizon report, 2018)

India also through its Digital India programme, aims to promote E-education. Digital India programme aims to connect all schools with broadband, provide free Wi-Fi in all secondary and higher secondary schools. It also aims to develop a programme on digital literacy at the national level and develop Massive Online Open Courses (MOOCs). In the light of all the changes and increasing influence of technology on education, this paper attempts to identify emerging trends of ICT which has strong influence on quality assurance in higher education in India.

2. REVIEW OF RELATED LITERATURE

Horizon report 2018 identifies what is on the five-year horizon for higher education institutions, which trends and technology developments will drive educational change, what are the critical challenges and how can we strategize solutions? These questions regarding technology adoption and educational change are discussed in this report. The report presented two long-term impact trends: advancing cultures of innovation and an increase in cross-institution collaboration.

Rao P N Archana, Baglodi, Kishore (2018) in their paper 'Role of Big data in Education sector: A Review' highlight the importance of applying Big Data technologies to various aspects of the education sector and primarily focuses on three

specific target users namely students, teachers and the organization as a whole. Though Big Data has unfolded its wings in various domains in an unprecedented manner, educational institutions are yet to utilize it to the maximum possible extent. Lack of computational capacities, tools and human resources can be attributed to this. Confidentiality and privacy of student data and the need for greater security could also contribute towards the slow pace of education sector in utilizing Big Data technologies.

Saptarshi Ray (2013) in his paper 'Big data in Education' discusses the importance of Big Data in Education.' The paper analyzes how the big data is generating in the education sector and also how those data can be managed and how to apply predictive modelling to best use of the dataset. Online education becomes popular day by day and the amount of data generation increases day by day. So handling this huge amount of data will be a challenge now. For the other big data management researchers started using various new databases like NOSQL.

Trehan,S, Sanzgiri,J, Li.C, Wang. R, Joshi.RM. (2017) in their paper 'Critical discussions on the Massive Open Online Course (MOOC) in India and China' situates the discourse around MOOCs from the unique perspectives of India and China with three broad objectives of sharing MOOC development in these countries, conducting a high-level discussion of the potential value of MOOCs for their HE systems and critiquing current issues with MOOC development there. This discussion is timely, since MOOC discourse in the international literature has swung between trumpeting MOOCs as "disruptive" technologies to warning of the "MOOC delusion". We find that the concept and practice of MOOC in India and China are emerging. From the supply side, there is a need to focus on sound design, quality and accessible delivery, multi-lingual facilitation and efficient regulation of MOOC-credits, besides development of critical literacies for MOOCs in learners to realize the potential and promise of the MOOC.

3. ANALYSIS AND DISCUSSIONS

Technology increasingly is being used to personalize learning and give students more choice over what and how they learn and at what pace, preparing them to organize and direct their own learning for the rest of their lives. Sophisticated software has begun to allow us to adapt assessments and instruction to the needs and abilities of individual learners and provide near real-time results. Nationally, significant progress has been made toward ensuring that every school has high-speed classroom connectivity as a foundation for other learning innovations. The cost of digital devices has decreased dramatically, while computing power has increased, along with the availability of high-quality interactive educational tools and apps. Technology has allowed us to rethink the design of physical learning spaces to accommodate new and expanded relationships among learners, teachers, peers, and mentors.

(Office of Education Technology US, 2017) Some of the recent or future trends are discussed as follows:

1. *Proliferation of Open Educational Resources/MOOCs*

The MOOCs are the future of today's distance learning. They have made the education easily accessible to anyone anywhere anytime around the globe and made people's life more improved. Connecting, informing, composing and educating would be some of the referring words that would be suitable to add when we would talk about MOOCs in the near decade. MOOCs can be the next big thing. The MOOCs and online education have huge potential which would help accelerate and ensure social cohesion and sustainable growth. MOOCs could help make science and technology education accessible to masses but require to develop technical skills among students. The thirst for MOOCs is invasively burgeoning among Indians and they have opted MOOCs for making global classrooms a reality. (Nisha. F and Senthil.V. 2015). The short term innovative impact of MOOCs is that of providing, for the first time, a wide range of people (whether already in or outside formal education) with access to online learning resources and activities in a more or less structured way, with all the potentially life-changing consequences that it entails. The acronym "MOOC" is not used anymore to refer to just one type of course, but to whole range of different ones that include characteristics related to massive open online learning, among others. The emphasis of these courses is no longer, necessarily, on being "open", but on providing a variety of teaching and learning services to different types of people. (Read.T, Barcena.E&Sedano.B, 2018). The MOOC phenomenon has been used to show that university teaching requires changes that allow adapting to the new ways of knowing, learning, and communicating that exist in a hyper-connected society. (Fueyo.A, Hevia. I, 2018). Best practices Institutions committed to innovating with and harnessing the potential of MOOCs are increasingly looking at ways of integrating MOOCs into the learning experiences of campus-based students, experimenting with MOOCs to push the boundaries and design features of more common virtual learning environments (VLEs), seeing MOOCs as a means of increasing the level of choice and variety of course offerings for all students, taking advantage of MOOCs to help promote readiness and the academic capital of prospective students, exploring ways of offering scholarships for MOOC completion to international students living in developing countries, using data collected through MOOCs to build institutional capacity and capability in the area of learning analytics, exploring the advantages of closer collaboration with other institutions offering MOOCs on the same platform and including conjoint degree programmes. (Brown. Mark, 2018)

2. *Use of Analytics in Education*

Educational Institutions are using Learning Analytics and Academic Analytics to improve students learning experience and manage their resources in a more efficient way. In future,

use of analytics in education is going to improve even further. Learning analytics can facilitate evaluation of the effectiveness of pedagogies and instructional designs for improvement, and help to monitor closely students' learning and persistence, predict students' performance, detect undesirable learning behaviours and emotional states, and identify students at risk, for taking prompt follow-up action and providing proper assistance to students. (Billy Tak Ming Wong, 2017).

An education system powered by data analytics helps institutional mentors in devising and crafting scholastic experiences and study curriculum in accordance to individual ability, learning approach, preference, and performance of students. The teachers can get individual feedback on the performance of every student and of the entire class and modify their mode of teaching in accordance to cater to the learning needs of every student in the class.

Academic analytics is the application of business intelligence (BI) tools and strategies to guide decision-making practices in educational institutions. The goal of an academic analytics program is to help those charged with strategic planning in a learning environment to measure, collect, decipher, report and share data in an effective manner so that operational, program and student strengths and weaknesses can be identified. (Tech Target)

3. Experiential learning techniques like Augmented Reality or virtual reality

Experiential learning techniques, the use of artificial intelligence in education, and personalised learning techniques are some of the major trends which will continue to revolutionise the Indian education system. Experiential learning is being implemented in India in the form of virtual labs, social media platforms, virtual and augmented reality tools, and gamification of learning. (Jain, 2018) These trends are:

- **Gamification of learning** is an effective pedagogy which maximises student motivation and engagement by integrating game elements in learning environments.
- Virtual labs are interactive environments for creating and conducting simulated experiments based on real-world phenomena so that students can interact with an experimental apparatus or other activity via a computer interface. This eliminates the problem of accessibility as well as the lack of physical infrastructures for lab-based learning, especially in science subjects.
- Virtual Reality (VR) allows students using e-learning platforms on mobile devices to directly interact with study material. This keeps their engagement levels high and motivates them to learn more and better.

4. Internet of Things: The Internet of Things is transforming the education sector and promoting collaborative, safe and fast learning. The education sector

is also likely to continue being impacted as schools make greater use of connected devices. Students, educators and administrators collaborate more closely and derive insights from data as the Internet of Things continues to make inroads into the education sector. (India Today, 2017). Some of the applications reported by the report are:

- Students can now interact with peers, mentors and educators worldwide using connected devices such as digital highlighters and interactive boards, while sitting in the comfort of their home or classroom. Digital scanners aid the learning experience by digitally transferring text to smartphones. Similarly, interactive boards simplify and accelerate learning by receiving, acknowledging and reciprocating information.
- Quick Response (QR) codes have made their way into the school textbooks. Feedback, assignments and additional knowledge resources become easily available to students when they scan the QR codes with their smartphones.
- Digitised identity cards and wristbands are used to track visitors, staff and students. Data on the last-known locations are stored on a server which ensures that every area on campus is accessed only by the right people. The cards and wristbands also act as digital wallets and enable cashless payments. School buses are also enabled with GPS tracking, which makes the journey to and from school safer and lets parents know their child's whereabouts.
- Streamlining day-to-day operations using the Internet of Things helps the school management and teachers focus more on teaching. It allows them to automate tasks that would require considerable time and effort when performed manually. For example, connected devices can detect students' presence in the school and eliminate the need for taking attendance manually and submitting the information at a central office. Similarly, RFID technology is used to track school resources such as projectors and lab equipment. The Internet of Things also helps reduce energy costs by monitoring energy usage.

5. Collaborations and partnership between Educational Institutions, Analytics companies:

Educational institutions and companies must pool financial resources in order to expand the digital base of content available to learners. Cross-sector collaborations and partnerships are also becoming more common, with industry looking to institutions for research and development to solve pressing challenges and institutions looking to business to prepare students for the digitally focused workforce, aligning programs and degree pathways with industry needs. (EDUCAUSE- Horizon report, 2018) Legacy tech giants IBM and Genpact are the forerunners in collaborative learning model that also leads to enhanced industry linkage and superior analytics capabilities. IBM has 50 partner colleges as part of their Career Education Program. The Armonk tech titan

has set up Software Capability Lab and has added a broad layer of business analytics skills to every management course. Through the tie-up, IBM has set up Business Analytics Lab in the college premises and equipped it with the relevant IBM Software. IBM Subject Matter Experts also train the faculty members and students to understand the application of analytics in business. (Analytics India)

6. E-learning or cloud learning:

Use of technology in Indian classroom at least in private schools has increased in recent past. Technology has become essential in order to prepare students for challenges of future workplace. Companies like Educomp are offering smart classes in the space of digital content usage in the classroom. Such digital classrooms provide classroom technology taking advantage of a large repository of digital content across all subjects from kindergarten to grade 12. Another trend that will grow further in coming years is cloud learning. Ministry of Electronics and Information technology (MeitY) has identified E-Learning as one of the thrust area for imparting education using educational tools and communication media. It is the learning facilitated and supported by Information Communication technologies (ICT). The broad objective is to develop tools and technologies to promote E-Learning. (MeitY) has been financially supporting R&D projects in the area of E-Learning at various academic educational institutes, R&D Labs etc. and providing grant-in-aid for R&D projects in the area of content development, R&D / Technology development projects, Human Resource Development projects & Faculty Training to improve literacy through distance education using Information and Communication Technology (ICT) Tools (Computers, Multimedia and the Web). (MeitY, 2018)

Presently, a number of our schools suffer from a low quality education delivery, primarily due to short-handed staff, inefficient infrastructure, tiny classrooms and lack of teachers. Cloud computing solutions can solve many of these problems through online lesson planning tools, automating school management process, and online homework submission etc. Cloud technology will eventually ensure that the present factory model of education disappears from the systems. This assurance comes from the fact that cloud solutions do not require any traditional education tools like classrooms, teachers, textbooks etc. (Jha.N, Shenoy.V. 2016)

4. CONCLUSION

It can be concluded that technology is going to have a big impact on Education. Cloud learning is going to define the concept of anytime anywhere learning. Learning analytics and academic analytics will help in providing user oriented courses at low cost. MOOCs will provide access of online learning resources and activities to everyone. It will enable the process of reskilling and upskilling convenient for the people already in job market. Internet of things will redefine learning. Virtual and augmented learning applications will take education

system to new level. Learning spaces will be redefined to promote project based learning instead of theoretical knowledge. Educational institutions and academia will have to adapt to the changing scenario of education sector to stay in demand. The role of teacher is also going to become even more important and evolve from being an instructor to facilitator.

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Quality Assurance in Higher Education: Role of Teachers

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Abstract: The forces of disruption are pressing down on higher education, and many college and university leaders have the passion and drive to adapt to a changing environment. But innovation is never such a neat process; no idea ever pops out of someone's head fully formed or perfect. Allowing colleges to try something and then iterate is critical for innovation to flourish. But too often they find their efforts to rethink outmoded practices and programs are stymied by the very entities that were originally designed to promote quality in higher education- even as new entrants to the market are able to innovate without the constraints of accreditation. Instead of promoting quality, accreditation is in some cases consigning institutions to merely preserve the status quo.

In an age of mass and increasingly internationalized higher education, it has become the norm that both universities and quality assurance agencies are subject to external scrutiny. Yet it is becoming increasingly difficult to assess quality and to demonstrate the impact of external quality assurance.

Keywords: Higher education, effectiveness of quality management, quality assurance, teachers' upgradation

1. INTRODUCTION

Higher education is in a time of transition. Colleges and universities are seeking—and sometimes struggling—to keep pace. The challenges come from a number of directions: the changing population of students, evolving demands of the workplace and society into which students will enter, new frontiers in pedagogy powered by new technologies and research on learning, existing business models that are at risk from a combination of stagnant or declining revenue and escalating costs, and competition from new forms of postsecondary education that often look nothing like a traditional college or university.

This is rather surprising, in particular when one considers that many European quality agencies have been in operation for 20-plus years. There was a kind of wave of new quality assurance bodies established in the 1990s, with organizations being founded at almost the same time in the North-Western and Central-Eastern parts of Europe.

As a result, many colleges and universities are seeking to pursue new strategies that, in some cases, challenge the long-held tenets of the traditional college model. But innovation in higher education can be complicated—and not just because colleges and universities are complex places with many moving parts, constituencies, and purposes. Joint projects and support from various international organizations were vital for this capacity building and for professional advancement. Over the years, the professionalism of quality assurance staff has grown and we now have a separate category of quality managers, even if this is not yet a profession in its own right.

In most other sectors, when organizations see a new opportunity, they develop a plan to tackle it. They generally do not need the permission of an external party to chase the opportunity. Higher education is different. Depending on the nature of the innovation, a college or university must work closely with its accreditor to ensure that the new practice is consistent with the accreditor's quality standards. As a result, accreditation plays a major role in the innovation process for most colleges and universities.

Developed initially as a way for colleges to assure that high school graduates met acceptable standards for admission, accreditation has evolved over the last century. The accreditation process currently gates access to Title IV federal funds and, for many institutions of higher education, essentially provides them with the ability to operate. Peer reviews for institutional accreditation are seen to focus more on the resources and processes of institutions than on student outcomes. Critics allege that this allows institutions with all the trappings of traditional higher education—but poor outcomes—to remain in existence. They point to many case studies to bolster their claims.

So we already have some experience. Moreover, there is a shared vision about how things should be done which has been consolidated into a European model called the ESG – the Standards and Guidelines for Quality Assurance in the European Higher Education Area.

These accreditation failures—letting fraudulent or low-quality institutions slip through the cracks—grab headlines. But the more insidious failure of accreditation is arguably not the low-quality institutions that continue to be accredited and the risks

accreditors allow institutions to take. Quite the opposite. It is the stifling effect that accreditation has on innovation at existing institutions.

Institutional accreditation has moved to focus more on outcomes in recent years, 4 but it continues to be a quality-control mechanism focused on ensuring fixed inputs. As society begins to place more emphasis on the outcomes of college—both in terms of employment and learning—and as successful new models emerge with very different inputs from a traditional college, scrutiny of the accreditation model is building.

The ESG is something that all stakeholders in Europe – from national authorities, higher education institutions and quality agencies to student organizations and business partners – have agreed and it has been in force for 12 years now.

In this paper we first discuss the nature of higher education business models and how innovation can (or cannot) occur within those models. We then explore the stories of educational institutions as they have tried to launch innovative practices. Together these stories illustrate that accreditation is not necessarily at odds with innovation. Accreditors can block innovation, but they can also facilitate it. Institutions, however, do not always know what their accreditor will allow them to do when they seek to innovate—or what resources they may have to expend to convince an accreditor that an innovation should be permissible. The seeming randomness casts a pall over innovation across the sector. It also stands in stark contrast to the ability of unaccredited educational institutions to innovate.

Recent innovations and new technologies in education have altered the way teachers approach instruction and learning and can provide countless advantages. The pedagogical value of specific technology tools and the cumulative effects of technology exposure on student learning over time are two areas that need to be explored to better determine the improvements needed in the modern classroom.

Advanced Methodologies and Technologies in Modern Education Delivery provides emerging research on educational models in the continually improving classroom. While highlighting the challenges facing modern in-service and pre-service teachers when educating students, readers will learn information on new methods in curriculum development, instructional design, and learning assessments to implement within their classrooms.

The author reports on a mixed-methods study focusing on teacher candidates' (TCs') digital competencies as they integrated digital literacies in a science methods course. The emphasis is on course assignments which incorporated digital literacies on a variety of levels as TCs developed 1) digital case studies, 2) scientific timelines, 3) concept presentations, and 4) science resource websites focusing on multimedia interactive activities. Results indicate that the explicit integration of digital literacies created and engaged learning communities while improving technological and scientific

literacies in a purposeful manner. Findings include enhanced technological literacy in terms of learning about technology, awareness of the process of knowledge construction, personalized learning pedagogy, and heightened self-efficacy. Engaging instruction for adult learners will be defined in this paper in two ways: designing courses using the significant learning taxonomy, and a paradigm shift to support faculty to involve student participation. The discussion of engaging instruction will be presenting using several research-based foundations such as Baxter-Magolda's self-authorship, Palmer's open learning environments, and Fink's significant learning taxonomy.

Ontology use in education environments can be explained in three groups: content access and/or retrieval, content creation, and personalization. Use of ontologies helps content creators to design and develop online courses, provide smart searches and content suggestions, and design personalized learning environments for learners. But it is not always possible for educators to find the best ontology for their needs in their learning management system. Since the ontology creation is a complex process, it might not be always easy or even possible to create an ontology for a selected domain and use accordingly. In this paper, a review of state-of-the art literature regarding the ontologies in educational domain will be reviewed. Second, the challenges and difficulties in ontology development process for educational domain will be addressed and explained in detail. Finally, design suggestions to the difficulties expressed in the literature and further opportunities in ontology design and development will be presented, taking the existing ontology evaluation frameworks into account. Identifying the positive attributes of students and instructors in the online environment will contribute to the understanding of how we can enhance the learning experience for the student and the teaching experience for the instructor. This paper will assist students and instructors in understanding the differences that may be experienced in the online environment versus the face-to-face environment and provide the opportunity to consider whether online learning and/or teaching is a "good fit" for them. Understanding why students and/or instructors might choose the online environment will also assist administrators in developing successful, quality online programs that enrich the experiences for both students and instructors.

The knowledge explosion, the increased complexity of human life, and the ubiquitous, 24/7 nature of technology coupled with the globalization of the marketplace herald the need to embrace the most effective methods and formats of teaching and learning. Currently providing powerful educational opportunities, the science and technology of distance learning continues to multiply at unprecedented rates. Where historically traveling from village to village verbally disseminating knowledge was the only process of training those at a distance, today's learners eagerly embrace the rapidly expanding web-based delivery systems of the 21st century, which offer a plethora of educational alternatives. So,

with this rapidly changing distance educational landscape, one must question, what exactly is distance teaching and learning, how has it evolved, and what is its future?

Postsecondary institutions of education are recruiting higher numbers of international students. At the same time, they are increasing opportunities for students to participate in online courses. Despite these two current trends in postsecondary education, little research has been conducted specifically on international students learning in online courses. The paper focuses on the few studies that have been conducted so far on this topic, with a focus on their findings.

Networks function as an appropriate device to explore the processes of creation and adoption of knowledge by academics in higher education institutions (HEIs), and how it can be operationalized with the concept of epistemic authority and the analysis of knowledge networks. The claim that underlies this paper is that emergent processes of knowledge creation—in terms of epistemic states—are highly shaped by the social and knowledge networks in which academics are engaged. The primary focus of this approach to knowledge networks will be on knowledge creation. Thus, instead of focusing on the vehicles of distribution of knowledge and scientific outputs, the emphasis will be on the role of knowledge networks – seen as epistemic conduits.

2. CONCLUSION

Education is a never-ending process. It doesn't stop after earning a degree and starting a career. Through continuing education, career-minded individuals can constantly improve their skills and become more proficient at their jobs. In the field of K-12 education administration, it is particularly important for school administrators to encourage teachers to pursue professional development, not only to ensure the best learning outcomes for their students but also to be more effective and satisfied in various other aspects of their work.

Educational technology, school district guidelines and curriculum standards are constantly changing, making it challenging for teachers to keep up with trends and best practices in the field. Professional development transforms teachers into better and more apt educators by enabling them to create relevant and tailored course instructions for today's students. Research by the U.S. Department of Education's Institute of Education Sciences concluded that student achievement can improve by as much as 21 percentile points as a result of teachers' participation in well-designed professional development programs.

National Board Certification is one path for teachers to pursue professional development and keep up with the latest educational standards to ensure optimal student learning. One study by Charlotte-Mecklenburg Schools found that student performance on end-of-course tests in Algebra II, Biology, Civics and Economics, Chemistry and Geometry was significantly higher for those students taught by National

Board Certified Teachers than students of teachers without National Board Certification.

Teachers Learn Better Ways to Teach

When educators discover new teaching strategies through professional development, they are able to go back to the classroom and make changes to their lecture styles and curricula to better suit the needs of their students. However, these changes are hard to evaluate because they are typically implemented gradually. Professional development for teachers makes them more efficient in their presentations and course evaluations by exposing educators to new delivery methods, evaluation styles and record-keeping strategies.

Teachers Develop Better Organization and Planning Skills

In addition to the hours spent presenting in the classroom, much of teachers' time is spent on student evaluations, curriculum development and other paperwork. Professional development training can help teachers to become better at planning their time and staying organized. This ultimately makes teachers more efficient and gives them extra time to focus on students rather than the paperwork.

Teachers Gain Knowledge and Industry Insight

Students expect teachers to be subject matter experts for the topics they teach. This means teachers should be able to answer any question a student throws their way. Professional development programs can enable teachers to expand their knowledge base in different subject areas. The more professional development a teacher undergoes, the more knowledge and industry insight he or she gains.

Teachers Want to Continue Their Education

It's easy for teachers to become burdened by the grind of teaching. Professional development gives them an opportunity to step out of their routine — they get to be the student instead of the teacher. This keeps educators engaged because they feel like they are receiving the professional help they need to be better teachers. After all, professional development nurtures the talents of teachers who aspire to take on educational leadership positions, and teachers must learn from other experienced leaders to become effective future leaders themselves.

Implementing professional education development has benefits for both teachers and students, but most importantly, it helps teachers become better educators and develop into competent future school administrators.

The state of North Carolina understands the importance of continuing education for its teachers and school leaders. Public Schools of North Carolina has implemented a NC Professional Development Office that focuses on providing schools with leadership, resources, technical assistance, and consultative services in related to professional development with improved student achievement as the end goal. The site lists various

resources for administrators and teachers to develop skills and learn best practices according to the latest standards in the education field.

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Impact of ICT on Higher Learning Education in India

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Abstract: *ICT has been developing very rapidly nowadays. In order to balance it, the whole educational system should be reformed and ICT should be integrated into educational activities. All forms of education are to be enhanced and it ranges from on the job remote learning, to university level coursework. Everything from video lectures, to video conferencing, to printed lessons and lectures can be prepared and set up for a learner to access using ICT tools. The two way aspects of TV/Internet combinations allow students or employees to have dialogue and discussion while they are viewing and/or recording the educational content. ICT is going to be a game-changer in the field of higher learning in India.*

Keywords: *ICT, Higher Education, NMEICT, Smartphone, Netbook*

1. INTRODUCTION

Technological tools and resources used to construct, store, communicate or broadcast, and manage information are collectively termed as Information and Communications Technologies (ICT). Integration of Hardware, software, multimedia, interactive applications, Networks for accessing resources remotely and the systems required to deliver the technology, makes ICT. Radio and television, as well as newer digital technologies such as computers and the Internet are potentially powerful enabling tools for educational change and reform. Use of ICT is not new in education system as information and communication are the essential parts of our education system. Millions of websites provide curriculum building guidelines, lecture plans, instructional activities, online expert guidance and distance learning material. Ease of digital tools and applications along with growing network availability further increases uses of ICT in Education exponentially. Although role and significance of information and communication technology (ICT) in education is identified worldwide but still there is a need to increase the level of ICT integration in Teaching and Learning process in India. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life.

ICT can contribute to universal access to education, equity in education, the delivery of quality learning and teaching, teachers' professional development and more efficient education management, governance and administration [1].

The effective integration of ICTs into the educational system is a complex, multifaceted process that involves not just technology but also curriculum and pedagogy, institutional readiness, teacher competencies, and long-term financing, among others. Concerns over educational relevance and quality coexist with the imperative of expanding educational opportunities to those made most vulnerable by globalization; developing countries in general; low-income groups, girls and women, and low-skilled workers in particular. Global changes also put pressure on all groups to constantly acquire and apply new skills [2].

It is estimated by research firm Kantar IMRB, that the number of internet users will reach 627 million by the end of this year. It is also estimated that 97 percent of the users access Internet using mobile phones.

ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process. The main purpose of the Strategy for Information and Communication Technology Implementation in Education is to provide the prospects and trends of integrating information and communication technology (ICT) into the general educational activities [3]. Section 2 of this paper describes the education scenario in India. Section 3 discuss about different ICT tools being used whereas Section 4 describes about the emerging trends in this field. Section 5 finally provides a conclusion followed by the references in Section 6.

2. EDUCATION SCENARIO IN INDIA

Globalization and technological change have created a new global economy "powered by technology, fueled by information and driven by knowledge. The International Labour Organization defines the requirements for education and training in the new global economy simply as "Basic Education for All", "Core Work Skills for All" and "Lifelong Learning for All". "The illiterate of the 21st century, " according to futurist Alvin Toffler, "will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn" [2].

India shows enormous geographic and demographic disparity in ICT use. India has one of the largest ICT workforces in the world. One can find intense ICT use in technology in upper middle brackets of incomes [4].

The higher education in India has witnessed many fold increase in its institutional capacity since independence. There were only 20 Universities in 1950; however as per report of

MHRD's All India Survey of Higher Education (AISHE) 2017-18 there are 903 Universities, 39050 colleges and 10011 stand alone Institutions in India. As far as total Universities are concerned, 47 Central Universities, 290 State public Universities, 343 private Universities, 1 Central Open University, 14 State Open Universities, 74 Institutes of national Importance, 5 Institute under state legislature act, 123 deemed to be Universities with a total enrollment of 36 million approx which is around 25.8%. The number of teachers from 15, 000 in 1950 has been increased and rose to nearly 1.3 million [5]. To cater need of the youth, skills and employment, ICT can be heavily relied upon.

3. ICT TOOLS

3.1 "e-PG Pathshala" A Project under National Mission on Education through ICT (NME-ICT) [6]

The National Mission on Education through Information and Communication Technology (NMEICT) is envisaged as a Centrally Sponsored Scheme to leverage the potential of ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions in ubiquitous mode. Its motto being "to provide connectivity up to the last mile", the NME-ICT aims to extend computer infrastructure and connectivity to over 32000 colleges existing at present and each of the departments of over existing 550 universities/deemed universities and institutions of national importance in the country. The numbers of institutions/Departments are to grow in future. NME-ICT seeks to bridge the digital divide, i.e., the gap in the skills to use computing devices for the purpose of teaching and learning among urban and rural teachers/learners in higher education domain and empower those, who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

3.2 Educational Apps

As of June 2015, there were over 80, 000 educational apps available in the app store. It is difficult to say how many are truly educational, because developers have leeway to categorize their apps as they choose [7]. Usage of apps in education is growing day by day.

3.3 Online Video/Audio Lectures

To achieve the goal of quality and excellence in higher education, the Ministry Of Human Resources Development, Government of India launched the "National Program on Technology Enhanced Learning (NPTEL)" in the year 2003. The aim of the NPTEL is to develop curriculum based video lectures and web courses to enhance the quality of engineering education in India [8]. The video files are freely available via the IIT channel in Youtube. Seven IIT's and Indian Institute of Sciences (IISc) have worked together to develop web and video based material [9]. With fresh approvals from the HRD ministry NPTEL launch the Open Virtual University in 2012[10]. It's the largest online repository in the world of

courses in engineering, basic sciences and selected humanities and social sciences subjects. It has more than 460 million+ views. It contains more than 42000 hours of video content.

Not Even NPTEL World's top universities also offer the same. Apple's iTunes U and Google's You Tube EDU have also emerged as wonderful platforms for online video lectures. iTunes U offers an open access to content from world class institutions and universities such as Harvard, MIT, Cambridge, Oxford, Stanford, Yale, Princeton, Columbia, United Kingdom's Open University, University of Melbourne and Université de Montréal. Over 800 universities throughout the world have active iTunes U sites [11]. Interested learners now have access to over 350, 000 video and audio files from educational institutions around the world. It has become one of the world's most popular online educational catalogs with more than 300 million downloads [12]. On the other end UC Berkeley, University of California Los Angeles (UCLA), University of Phoenix, University of Missouri Kansas City, Stanford, Washington State University, Penn State University, IIT, Virtual University of Pakistan and IGNOU channels have marked their presence among the popular one's on You Tube EDU [13-14].

3.4 E-books

Millions of documents and books are now available to students at the click of a mouse button. An e-book can either be conveniently purchased online or downloaded for free, and hence be used immediately. E-books are cheaper and easier to share and preserve for a long time. Anyone can read, download and print them instantly 24x7 from any part of the world. The trend of dedicated e-book (Apple Inc. iPad, Barnes & Noble Nook, Android Tablet Kineo [15]) reader may soon make itself visible in its full glory. Scribd [16], FreeBookSpot [17], Free-eBooks [18], the eBook Directory [19], ManyBooks [20], 4eBooks [21], Globusz [22], FreeComputerBooks [23] FreeTechBooks [24], OnlineComputerBooks [25] are some of the popular web addresses for e-books, in use today. Google eBookstore claims to be the Internet's largest online e-book store. With more than 3 million e-books for sale, it has more e-books than Amazon's market-dominating 2.5 million digital books [26]. All these developments are indicative of the potential of Internet- supported learning to provide quality education at an affordable cost and in a convenient form. [27].

3.5 National Knowledge Network

National Knowledge Network (NKN) is a state-of-the-art multi-gigabit pan-India network for providing a unified high speed network backbone for all knowledge related institutions in the country. NKN has already connected 180 institutions (like IIT, Institute of Physics, Indian Institute of Tropical Meteorology, ICAR Research Complex and C-DAC etc.) and aims to connect over 1500 Institutions / Organisations / Laboratories under various categories throughout the country. The NKN will enable scientists, researchers and students from different backgrounds and diverse geographies to work closely

for advancing human development in critical and emerging areas. The idea of setting up a National Knowledge Network first emerged through deliberations between the office of Principal Scientific Advisor to the Government of India and the National Knowledge Commission.

3.6 E-learning and E-teaching

E-learning for students allows for efficient transfer of knowledge anywhere and anytime, regardless of subject matter. E-learning according to Sale (2002), is the use of electronic technology to deliver education and training applications, monitor learner's performance and report learner's progress. E-learning runs parallel with the development of electronic equipment and the use of information and communication technologies (ICT). Example of what might be defined as e-learning occurred in 1909, when Robert E. Peary, arctic explorer, radio-telegraphed: "I found the Pole". Combining the characteristics of communication technology with an explicit educational objective, the knowledge that he has found the North Pole, Peary inadvertently produced an E-learning occurrence for his listeners [28]. Presently, some countries like Nigeria are using it to promote distance education (DE) and lifelong learning [29]. ICT is helpful tool for provide universal access, equity, the delivery of quality learning and teaching, teachers' professional development and more efficient education management, governance and administration.

4. EMERGING TRENDS

4.1 Netbook in Education

Netbooks are a growing trend in education for several reasons. The need to prepare children for 21st century lifestyles, combined with hundreds of new educational tools that can be found online, and a growing emphasis on student centered learning are three of the biggest contributing factors to the rising use of Netbook technology in schools. Dell was one of the first to mass produce a ruggedized netbook for the education sector, by having a rubber outlay, touchscreen and network activity light to show the teacher the netbook is online. The small size Netbooks easier to transport than heavier, larger sized traditional laptops. In addition, prices ranging from \$200–\$600 dollars mean the affordability of Netbooks can be a relief to school budget makers. Despite the small size and price, Netbooks are fully capable of accomplishing most school-related tasks, including word processing, presentations, access to the Internet, multimedia playback, and photo management. [30]

4.2 Smart Phone in Education

Students around the world are increasingly bringing their own mini-computers (or some connected device) to class. Whether this creates a distraction or a boon to learning is debatable, but these four uses of mobile phones in education — and countless others — could one day help prove the latter.

4.3 iPad in Education

The interactive interface with several inbuilt software is no less than a mini tablet computer. In this advanced digital age nobody wants to carry the huge number of books. Hence iPad is going to be the best solution for the students as it is very light weight, and easy to carry everywhere. The iBook application which has been incorporated to this device presents word processing, drawing, painting, database, spreadsheet, presentation outlining, spell checking and many other features which are very useful to every student. Not only that, for higher education a student can even use it as an online eBook store where he can get enumerable number of full length digital books from different publishing houses. The books are sold online at a reasonable rate. Hence it is a notebook cum book library at the same time. The students can read the e-textbooks with pictures and videos both online and offline. [31]

4.4 Google Classroom

It is a free online service developed by Google Inc for schools and colleges that aim to simplify creating, distributing and grading assignments in a paperless way. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students anywhere and anytime mode [32].

5. CONCLUSION

Most of the academic Institutes still use traditional approach of chalk and Black/White Board to impart knowledge to its learners. Whereas the new Teaching-learning Model involves Teacher as a facilitator and guide who discusses the real case studies for learning. Problem-Based, Project-Based and Case-Based Learning results in overall development of the students. It increases student's decision making, problem resolution capability and they learn the importance of teamwork, information presentation and values. Project oriented approach makes students to understand the concepts deeply and build new working models using the adequate tools. The influence of ICT, especially internet cannot be ignored in learners' lives. The wide use of internet access has been an unavoidable which is to be understood by all learning Institutions. The implementation of ICT in education has not been a priority trend of educational reform and the state paid little attention to it. Therefore, there should be an active participation and initiative of the Institutes and the government institutions to enhance ICT implementation at every possible level.

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Improvements through ICTs for Children's with Special Needs

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Abstract: *In the 21st century Information and Communication Technologies (ICTs) is like the part and parcel of everyone's life. With this there has also been an increase in provisions for inclusion for the persons with disabilities and making the society and services assessable to them. But it would be wrong on our part to restrict the concept of associability of the Person with Disabilities (PwDs) to only the ramps and the lifts facilities. Today's world is a digital world. And the PwDs are equally entitled to be included in this digital world which can also be termed as Digital inclusion of the person with special educational needs. Hence the present study has largely to deal with the understanding of relevance of the ICTs for the children with special educational needs. There has also been an attempt on the part of the researchers to analyze the role of ICTs and the barriers faced while teaching the children with special educational needs with the help of ICTs. At the end the authors also made an attempt to come up with few suggestions to overcome these barriers and how proper implementations of ICTs can be done for the benefit of the children with special educational needs. Thus, it is hoped that this study will act as a source of reference for any future initiatives to be taken up in this field and measures can be taken for further emphasizing the use of ICTs in the education of children with disabilities in the society and also for the social development of the state.*

Keywords: *Information and Communication Technologies (ICTs), Person with Disabilities (PwDs), Special Educational Needs (SENs), Divyaang*

1. INTRODUCTION

Disability is part of the human condition. Almost everyone will be temporarily or permanently impaired at some point in life, and those who survive to old age will experience increasing difficulties in functioning. Most extended families have a disabled member, and many non-disabled people take responsibility for supporting and caring for their relatives and friends with disabilities. Every epoch has faced the moral and political issue of how best to include and support people with disabilities. This issue will become more acute as the

demographics of societies change and more people live to an old age.

Responses to disability have changed since the 1970s, prompted largely by the self-organization of people with disabilities and by the growing tendency to see disability as a human rights issue. Historically, people with disabilities have largely been provided through solutions that segregate them, such as residential institutions and special schoolings. Policy has now shifted towards community and educational inclusion, and medically focused solutions have given way to more interactive approaches recognizing that people are disabled by environmental factors as well as by their bodies. National and international initiatives – such as the United Nations Standard Rules on the Equalization of Opportunities of Persons with Disabilities – have incorporated the human rights of people with disabilities, culminating in 2006 with the adoption of the United Nations *Convention on the Rights of Persons with Disabilities (CRPD)*.

This World report on disability provides evidence to facilitate implementation of the *CRPD*. It documents the circumstances of persons with disabilities across the world and explores measures to promote their social participation, ranging from health and rehabilitation to education and employment.

2. WHAT IS DISABILITY?

Disability is a complex, dynamic, multidimensional, and contested term. Over recent decades, the disabled people's movements – together with numerous researchers from the social and health sciences – have identified the role of social and physical barriers in disability. The transition from an individual, medical perspective to a structural, social perspective has been described as the shift from a “medical model” to a “social model” in which people are viewed as being disabled by society rather than by their bodies.

The medical model and the social model are often presented as dichotomous, but disability should be viewed neither as purely medical nor as purely social: persons with disabilities can often experience problems arising from their health condition. A balanced approach is needed to give appropriate weight to the different aspects of disability.

The ICF, adopted as the conceptual framework for this World report on disability, understands functioning and disability as a dynamic interaction between health conditions and contextual factors, both personal and environmental. Promoted as a “bio-psycho-social model”, it represents a workable compromise between medical and social models. Disability is the umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors).

The Preamble to the *CRPD* acknowledges that disability is “an evolving concept”, but also stresses that “disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others”. Defining disability as an interactive means that “disability” is not an attribute of the person. Progress on improving social participation can be made by addressing the barriers which hinder persons with disabilities in their day to day lives.

TABLE: 1. Types of Disabilities that may adversely affect Educational progress

Different types of disabilities are defined in State and Federal regulations			
1.	Autism	7.	Neurological Impairment
2.	Developmental Delay	8.	Emotional Impairment
3.	Intellectual Impairment	9.999	Communication Impairment
4.	Sensory Impairment- Hearing Loss or Deafness	10.	Physical Impairment
5.	Sensory Impairment- Vision Loss or Blindness	11.	Health Impairment
6.	Sensory Impairment- Deaf blindness	12.	Specific Learning Disability

Source: <https://www.slideserve.com/daria/parents-students-and-schools-as-partners-rights-and-responsibilities-in-special-education>

3. ICTS FOR PERSONS LIVING WITH DISABILITIES

- UNESCO promotes the concept of Knowledge Societies which are inclusive, pluralistic, equitable, open and participatory.

Today, at least 15 per cent of the world populations are living with disabilities. Information and Communication Technologies (ICTs) have the potential *formaking significant improvements in the lives of persons with*

disabilities, allowing them to enhance their social, cultural, political and economic integration in communities by enlarging the scope of activities available to them.

Mobilizing partners for the support of the Programme by providing access to information and knowledge using Information and Communication Technologies (ICTs) for the persons with disabilities will allow UNESCO to:

- **Develop innovative solutions** for fighting social exclusion, discrimination and poverty through the application of innovative ICTs and through Open Solutions.
- **Build capacities** of information, media, education and ICTs professionals on design and application of inclusive technologies, accessible content and services.
- **Mobilize partners** for global awareness campaigns on disability rights.
- **Design appropriate policy frameworks and tools** for integration of inclusive ICTs.
- Contribute to UN efforts on the implementation on **UN Convention on the Rights of Persons with Disabilities**.

UNESCO is also committed to the implementation of the Plan of Action adopted by the *World Summit on the Information Society (WSIS)*, which includes two important areas for persons with disabilities, namely access to information and knowledge and capacity building. In the framework of these concepts and in line with UN Convention on the Rights of Persons with Disabilities, UNESCO advocates the rights and needs of persons with disabilities and fosters the effective use of ICTs that are accessible, adaptive and affordable.

A Conceptual Framework for Using ICTs in Education for People with Disabilities

This highlights the critical factors that are apparent across the various examples presented in the previous sections of the Practice Review. These factors underpin a possible conceptual framework for using ICTs in education for people with disabilities. This is not a simple task, given the range and diversity of the examples presented in the Review in relation to the focus of the ICTs work being described, but more crucially, the different issues facing countries at different stages in their ICTs infrastructure development.

In order to address the problem of identifying key messages emerging from such diverse sources, two strategies have been employed:

- As far as is possible, critical factors identified across the examples of practice are those that are context free; these are factors that appear to underpin the effective use of ICTs in education for people with disabilities in all situations and are not dependant on particular resources, or facilities being available.
- The factors identified have been linked to the *five key propositions* identified within the 2006 UN Convention on

the Rights of Persons with Disabilities in relation to the use of ICTs in education:

1. Promotion of equity in educational opportunities at all levels of lifelong learning;
2. Access to appropriate ICTs, including assistive technologies to allow learners to reach their full potential;
3. The training of educational staff to make use of ICTs in educational settings;
4. The promotion of research and development into the availability and use of new ICTs;
5. Systematic data collection to identify and then monitor the implementation of minimum standards for ICTs in education for people with disabilities.

The Role of ICTs in Special Education Needs (SENs)

The educational needs of people with disabilities are diverse. On the one hand, they must, as their peers, get knowledge and skills required in the society in which they live. On the other, they have (by definition) additional demands (often referred to as special educational needs) caused by functional limitations which affect learners' ability to access standard educational methods of instruction, therefore, prevent educational progress.

In this context, ICTs application is very important as it plays an essential role in providing high quality education for students with disabilities. ICTs have been introduced into the teaching-learning process in order to improve quality support, curricular changes and new learning experiences. In this way it is possible to meet the specific learning needs of different learner groups, including students with disabilities. Though specific applications of ICTs are extremely assorted and varied, they may be grouped into the following main categories:

- Compensation uses.
- Didactic uses.
- Communication uses.

With this in mind, the role of ICTs in special education will be described in accordance with the primary categories.

- *ICTs for Compensation Uses:* That is the use of new technologies as a technical assistance that allows students with special needs to take active part in the process of interaction and communication: if a person has motor disability he may be helped to write, or to read if a person is with a visual deficiency (among many other possible examples). From this point of view ICTs develop the students' ability to control their environment, make choices about their experiences, support problem-solving, give access to information, thereby enhance communication with others both in the immediate environment and around the world. In other words, technology can recoup or substitute the lack of natural functions.

ICTs for Didactic Uses: ICTs used as a learning tool have prompted a new dimension of education and launched the transformation of the educational approaches. ICTs application brings a variety of new teaching and assessment strategies for students with different educational needs. Here we must note that information technologies as a didactical tool are suitable for implementing the inclusive education. In order to enhance personal development, educational initiatives within the inclusive curriculum must aim at meeting unique needs, differences, and abilities of an individual; hence they must be fully supported to achieve these goals at an appropriate pace. Information technologies, thereupon, will become a valuable resource for inclusion.

- *ICTs for Communication Uses:* Technologies can mediate communication with people having disabilities (often referred to as Alternative and Augmentative Communication). Assistive devices and software to meet the needs of students with definite communication difficulties are specific to every disability. We talk about the computer as a resource that eases and makes the communication possible, allowing a person with communicative disorders to exhibit his/her abilities in a more convenient way, or people with motor and communicative disorders to start communication, show the needs and make the demands. Furthermore, where teachers are in short supply (as in special education) distance teaching methods can help provide special services between geographically dispersed students and teachers.

How do Special Education students benefit from Technology?

Technology can be the great equalizer in a classroom with diverse learners. Whereas teachers can find it difficult to differentiate instruction for 30+ students in one class, all with different needs and abilities, "assistive technology" (devices and software to assist students with disabilities) can often help teachers personalize lessons and skills enhancement to each child. Children with learning disabilities often have better technology skills than their teachers and are drawn to computers and other gadgets, so using them in the classroom makes perfect sense. For children with physical disabilities, technology can give access to learning opportunities previously closed to them. E-readers help students turn book pages without applying dexterity, and voice adaptive software can help students answer questions without needing to write. Computers are engaging and more advanced than the typical modified lesson allows. The widely-used teacher education textbook *Educating Exceptional Children* has a special section in each chapter focused on assistive technology explaining how it is used with exceptionalities ranging from giftedness to autism.

Assistive technology is not always just for students with disabilities; it can be used to help any student with motivation, academic skills, and social development. Here are some

helpful resources for teachers looking for assistive technology for their students:

- **Voice Thread** is a free software program that captures student voices and photos in order to collaborate on a topic. It is a technological substitute for written papers and allows students freedom to narrate their own projects.
- **Sounding Board** is an iPad/iPod Touch app that lets a student turn their device into a story board communicator. Students with writing disabilities and communication disorders can use the symbols to create their own messages in the same way that traditional symbol boards work, but easily and with a limitless supply of symbols.
- **Tech Matrix** offers consumer guides and links to software and assistive technology devices for students with disabilities. The site is sponsored by the National Center for Technology Innovation and the Center for Implementing Technology in Education. TechMatrix gives information and links to resources for teaching science, math, reading, and writing using technology with special education students.

Most students with disabilities can and do benefit from technology in the classroom. Incorporating technology increases students' motivation to learn and personalizes lessons to a student's individual needs. Even the students with the most severe and profound disabilities.

Benefits of using ICTs in Education for People with SENs

According to the research of British Educational Communications and Technology Agency (BECTA, 2003), ICTs usage in schools to support students with SENs can enable learners to communicate, participate in lessons, and learn more effectively.

Benefits of ICTs use in Education of people with special needs

General ICTs benefits:

- Enables greater learner autonomy;
- Unlocks hidden potential for those with communication difficulties;
- Enables students to demonstrate achievement in ways which might not be possible with traditional methods;
- Enables tasks to be tailored to suit individual skills and abilities.

ICTs benefits for Students:

- Computers can improve independent access for students to education;
- Students with special educational needs are able to accomplish tasks working at their own;

- Visually impaired students using the internet can access information alongside their sighted peers;
- Students with profound and multiple learning difficulties can communicate more easily;
- Students using voice communication aids gain confidence and social credibility at school and in their communities;
- Increased ICTs confidence amongst students motivates them to use the Internet at home for schoolwork and leisure interests.

ICTs benefits for Teachers, Non-teaching Staff:

- Reduces isolation for teachers working in special educational needs by enabling them to communicate electronically with colleagues;
- Supports reflection on professional practice via online communication;
- Improved skills for staff and a greater understanding of access technology used by students;
- Enhances professional development and the effectiveness of the use of ICTs with students through collaboration with peers;
- Materials already in electronic form (for example, from the Internet) are more easily adapted into accessible resources such as large print or Braille.

ICTs benefits for Parents and Carers:

- Use of voice communication aids encourages parents and carers to have higher expectations of children's sociability and potential level of participation.

ICTs and Barriers of Divyaang

It is crucial to raise awareness about the barriers that persons with disabilities face and identify the potential of technology to overcome these barriers. Several inter-related barriers to ICT can be identified in existing literature. These are:

- Lack of interest.
- Lack of awareness.
- Difficulty of access.
- High cost of ICTs.
- Lack of on-going support.
- Lack of training.
- Limited complementary services e.g. assistive technology, special accommodation for certified exams, vocational counseling and assessments.
- Limited accessibility features at mainstream ICTs training facilities.

For the sake of brevity, these barriers will be referred to throughout the document simply as interest, awareness, access, cost, training and ongoing support. In this sense, the above-identified barriers can be seen as bottlenecks in the path towards ICTs education and inclusion. People enter the process of ICTs education and inclusion at different stages. For example, some persons may already have an interest in and awareness of ICTs having recently retired from a job requiring computer literacy. Others may have money but lack and awareness of means by which they can access ICTs. The barriers, therefore, inter-relate and overlap. For example, there is often a prohibitive cost associated with training or on-going support. Similarly, little or no awareness of low cost and no cost options can serve as a bottleneck to bringing ICTs equipment within the financial reach of many PwDs.

There are different types of support structures available within countries; specialist national, regional, and global working groups to support networks and online networks can all be considered valuable support structures. However, it may be necessary to focus efforts on combinations of one or more structures to increase the success of the role of ICTs in development disabilities by overcoming attitude barriers in relation to understanding the benefits and possibilities of ICTs at policy and diffused responsibility for policy implementation.

4. CONCLUSION

ICTs is providing opportunities and making life easier for students with disabilities by introducing them to innovations in quick succession. Students with disabilities are now able to communicate with each other and learn through tools of Assistive Technology (AT) and Information and Communication Technologies (ICTs).

Despite the fact that AT & ICTs are helping students with disabilities to learn and interact, there are still some barriers that stand in the way of the disabled taking advantage of these wonderful technologies. The following are suggestions on means to overcoming these barriers:

- Ensure that all students with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment and independent living.

- Design and develop special education programs and instructions to meet the unique needs of a student with a disability that is provided at no cost to the child or the child's parents. Ensure that these programs are provided in the classroom, in the home and institutions and in other settings.
- Establish training programs to disabled instructors and develop personal training, classroom training, e-learning and online seminars according to need and preference.
- Collaborate with universities and development research projects to focus on innovation in the area of Arabic language solutions to expand the reach of AT solutions to Arabic-speaking students.

Finally, people with disabilities should have the same rights to participate in the Information Society as other citizens. ICTs should be tools that can help to overcome barriers they face in education, the workplace and various dimensions of social life.

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Web Based Result Analysis & Management System (RAMS): A Step Towards Digital India

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Abstract: *Result Analysis & Management System (RAMS) provides a simple interface for analysis and maintenance of student's University results. This system can be used by any college affiliated to Indra Prastha University, Delhi to generate the result reports easily as per requirement of college. Faculties can generate Class wise/ faculty wise reports by entering the teacher details against their respective subjects taught by that faculty. Administrator/Result Analyst has all the permission to analyze result of any faculty/subject. Finally, the desired report can be saved as a PDF file. This project uses location based strategy of iTextsharp PDF Library for .NET to extract the results of students from the PDF Result file issued by the University. In iTextsharp PDF Library for .NET, the co-ordinates of each element to be read from the PDF File are to be provided to the methods of the library. A MySQL database is created and the records are stored, locally hosted using XAMPP. The system was developed using PHP (Hypertext processor), VB.Net programming language and MYSQL/MariaDB relational databases. The application is portable and can be easily installed and used on any machine. Various layouts, like Top-10 Bottom-10, Faculty-wise, Subject-wise reports can be generated as per user's choice.*

Keywords: RAMS, PDF, PHP, MYSQL, XAMPP

1. INTRODUCTION

Digitization of Educational Institute work is necessary and very important step towards "Digital India Initiative" that aims to digitize various tasks in an Educational Institutes using Information Technology. This paper is a contribution towards this objective. Due to the problems associated with the manual result analysis system, Result Analysis & Management System (RAMS) was proposed, designed, and implemented. RAMS provides a simple interface for analysis and maintenance of students University results[1-3]. This system can be used by any college affiliated to Indra Prastha University, Delhi to generate the result reports easily as per requirement of college: Faculty-wise, Batch-wise, Top 10 and Bottom 10 subject wise as well as class wise etc. Using the system faculties can be engaged more in teaching andx other productive work of the college as the system will make the faculties' job less stressful by minimizing the time and effort spent on result analysis.

This is an automated students result management system using forms and reports. The manual method of students' academic result processing was found to be tedious, especially when carried out for a large number of students, this makes the entire process time-consuming and error prone. The system presents a single platform that will be used to manage the processing of all examination records within the institution as well as compares results with other college results within the University. Current result activities are mostly done on paper. Automated solutions using this system will make the work more efficient by covering for the most important drawbacks of manual system, namely speed, precision and simplicity. A centralized system will ensure that the activities in the context of result analysis can be managed effectively, while also making it more accessible and convenient for faculties. The Faculty is required to enter the faculty names against their respective subjects, and the institute and their names and a column for checking whether the teacher shares the subject with anyone else or not, the software analyze and generates reports as per user's choice. Result analysis is very important factor for improving teaching. This paper helps in automating the existing manual system and motivates paperless work. It is a Web Based [4] result analysis system from which faculties and management can get the required result reports without delay. This system is essential in the colleges and universities. This paper has been an effort in providing the motivation toward advancing the traditional educational process via automated process.

OBJECTIVES

The objective of the system is to design a system which contains up to date result reports of the college faculty. That should improve efficiency of college result analysis.

- Providing the online interface for faculty
- Increasing the efficiency of college record management.
- Decrease time required to access and deliver student records.
- Decrease time spent on non-value added tasks.

ORGANIZATION OF THE PAPER

The paper is organized as follows: Section II explains about the system. Section III provides methods used by the system.

Section IV includes the tables used in the database. Section V covers the details of the testing results, Section VI the conclusion followed by References in Section VII.

2. ABOUT THE SYSTEM

Our system consists of two main users:

- Admin
- Faculty

Admin: Administrator/Result Analyst has all the permission to analyze result of any faculty/subject after logging as admin. In RAMS, Admin can perform the following activities:

- Uploading and Generating of own Results
- Generating Result Reports of Any subject taught by any faculty
- Generating Result Reports of Any Faculty
- Generating Result Reports of Any Class
- Generating Result Reports of Top 10/Bottom 10 Student of any subject or any Faculty

Faculty: Faculty has to login for getting Subject wise/ faculty wise reports. They have to enter the teacher details against their respective subjects while prompted for the generation of analysis reports. The Faculty is required to enter the faculty names against their respective subjects, and the institute and their names and a column for checking whether the teacher shares the subject with anyone else or not, the software analyze

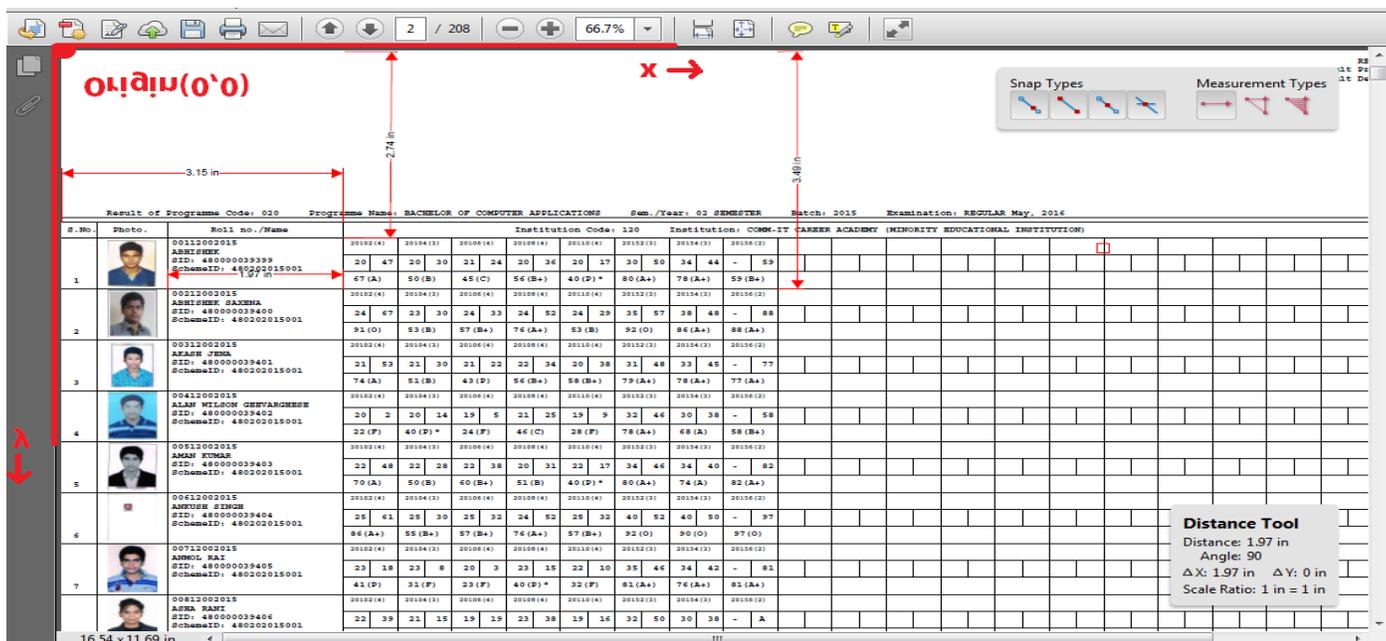
and generates reports as per user’s choice. In RAMS, Faculty can perform the following activities:

- Uploading and Generating of own Results
- Generating Result Reports of Any subject taught by any faculty
- Generating Result Reports of Top 10/Bottom 10 Student of any subject taught by them
- Generating Result Reports of Any subject shared with another faculty

3. METHODS

This system uses location based strategy of iTextsharp[5-7] PDF Library for .NET to extract the results of students from the PDF Result file issued by the University. A MySQL[8-10] database is created and the records are stored, locally hosted using XAMPP [11, 12].

The system was developed using PHP [13, 14] (Hypertext processor), VB.Net programming language and MYSQL/MariaDB [15] relational databases. It uses .Net Framework (4.0) and XAMPP (Local Server) along with 3rd Party Libraries Used: iTextsharp v 5.59 (PDF Library), MySQL v 6.9.9 (MySQL Connector). iTextsharp library is used for pdf generation, PDF manipulation, PDF form filling and Digital signatures. This library allows to create, adapt, inspect and maintain documents in the PDF format and also split or concatenate pages from existing PDF files.



The co-ordinates of all the individual elements on a PDF page are evaluated using Adobe Reader’s Measuring Tools. The first step is to identify the course name, and number of subjects from the result file. They are required before reading the actual

result of the students in order to prepare the schema of the database. The user is then required to enter the faculty names against their respective subjects, and the institute code for which the result has to be analyzed.

The system then iterates through the PDF File and locates the necessary pages (pages which include the results of students from a particular institute) from the result file. The elements such as Student's Name, Roll Number, Student ID, Marks in individual subjects are then read and stored in the Database. The calculation of the analysis data, eg. Top-10 Bottom-10 students of a particular batch, Faculty-wise results, etc., is majorly performed using the SQL queries in the database itself to improve the efficiency. Unlike the low level approach while reading the contents from the PDF result file, the final generation of PDF reports is achieved using the high level approach. The page elements such as Headings, Paragraphs, Tables all can be added using the iTextsharp Library's Tools.

4. TABLES OF THE DATABASE

- **Subject:** For recording the number of subjects and subject code and the teacher taught this subject and the batch number of the students in order to get the data uniquely from the database

Structure

- subject_namevarchar(80)
- subject_codevarchar(10) PK
- creditsvarchar(2)
- semestervvarchar(2)

- **Student:** This table is used for storing the student records that is their names, batch, roll_number. In this table, the primary key used is roll_number of the student

Structure

- namevarchar(25)
- roll_numbervarchar(12) PK
- student_idvarchar(15)

- **Marks:** This table is used for inserting the marks of the students from the PDF file given by the University. It stores the marks of the subject using the subject code (foreign key of subject table) .

The data is identified uniquely using the roll_number and subjectcode.

Structure

- sectionvarchar(2)
- internal_marksvarchar(3)
- external_marksvarchar(3)
- roll_numbervarchar(12) FK PK
- subject_codevarchar(10) FK PK

Teacher: This table is used to stores the details of the teacher that is the batches and the subject they taught and their names and a column for checking whether the teacher shares the subject with anyone else or not. The primary key used for getting the result uniquely is the pair of institution code, batch, subject_code, section.

Structure

- teacher_namevarchar(25)
- batchvarchar(4) PK
- share_withvarchar(25)
- subject_codevarchar(10) PK
- sectionvarchar(2) PK
- institution_codevarchar(5) PK

5. RESULTS

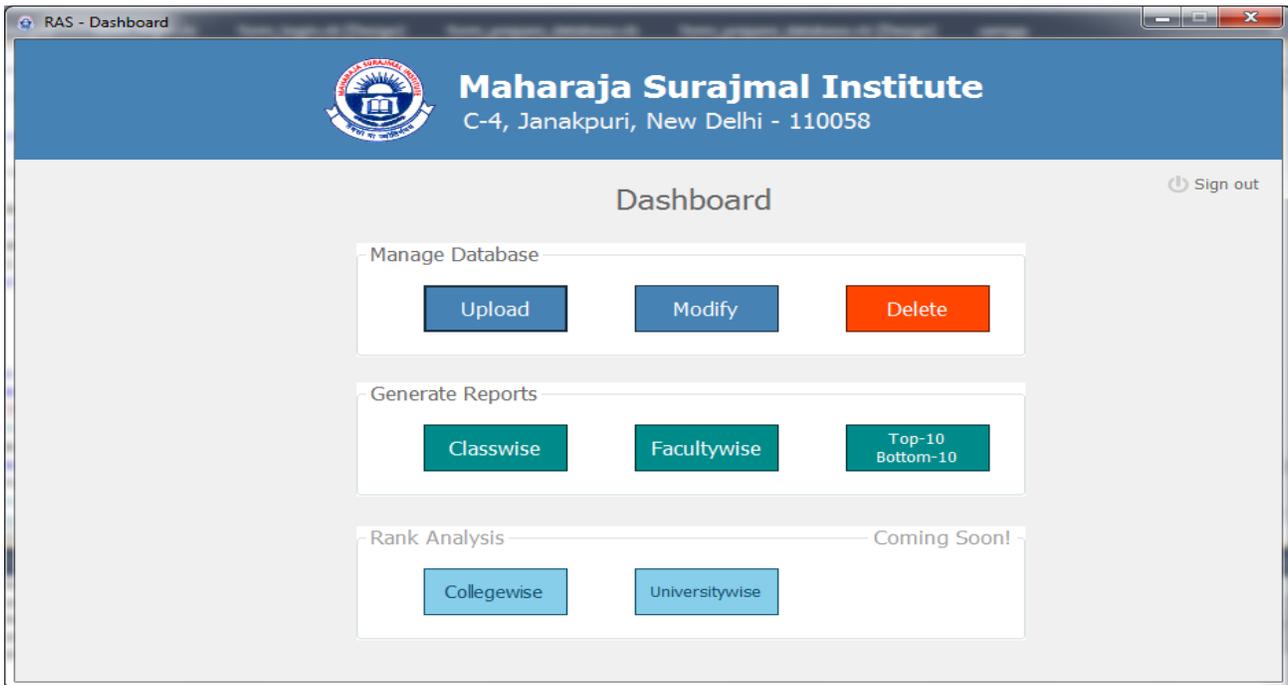
To get analysis reports Subject wise/ faculty wise user is required to enter the teacher details against their respective subjects when prompted for the generation of analysis reports. Any faculty can analyze results of all the subjects taught by that faculty after logging into the system but Administrator/Result Analyst has all the permission to analyze result of any faculty/subject after logging as admin. Finally, the desired report style can be selected and saved as a PDF file.

i. Login Form:

The system starts with login page where the registered user can enter user name and password to be able to access the system.



- ii. **DASHBOARD:** faculty can Upload, Modify and Delete results. They can generate Faculty wise, Class wise and Top 10/ Bottom 10 Reports of all the subjects taught by that faculty.



- iii. **Faculty Wise Result Report:**

MAHARAJA SURAJMAL INSTITUTE
Department of Computer Science
First Shift

Faculty Name : Manoj Kumar
Result Analysis : Aug To Dec 2016 Max. Marks : 100

S No.	Subjects Taught	Students Appeared	Passed	Pass %	>=90%	89.99-75%	74.99-60%	59.99-50%	49.99-40%	<40	Highest Marks
1	MATHEMATICS - I (BCA I B)	58	56	96.5517	2	17	21	5	11	2	92
					(3.4483)	(29.3103)	(36.2069)	(8.6207)	(18.9655)	(3.4483)	
1	OBJECT ORIENTED PROGRAMMING USING C++ (BCA III A)	57	55	96.4912	3	13	14	15	10	2	96
					(5.2632)	(22.8070)	(24.5614)	(26.3158)	(17.5439)	(3.5088)	
1	OPERATING SYSTEM (BCA V)	60	53	88.3333	2	10	24	17	7		97
					(3.3333)	(16.6667)	(40.0000)	(28.3333)	(11.6667)		
Total		175	164	93.7143		60.5715			39.4285		

"I do hereby solemnly affirm and declare that the facts stated in the above result are true to the best of my knowledge and belief."

Manoj Kumar
(Asst. Prof.)

Rhythm Choudhary
(Result Convener Committee -BCA)

Compiled by Result Analyzer Software developed by Raman Batra and Neeraj Aggrawal (BCA Batch 2015-18)
Under the Guidance of Ms. Rhythm Choudhary

iv. Faculty wise/ Subject wise Top 10/ Bottom 10 Report:

MAHARAJA SURAJMAL INSTITUTE
Department of Computer Science

Faculty Name : a

Subject Name : Subject Name Programme : BCA Semester 2										
Top 10 Students (Aug To Dec)						Bottom 10 Students (Aug To Dec)				
S No.	Student Name	Enroll No.	Int. Marks	Ext. Marks	Total Marks	Student Name	Enroll No.	Int. Marks	Ext. Marks	Total Marks
1	PRACHI SERVANSHI	06314902015	25	72	97	ROHAN BATRA	07014902015	21	4	25
2	RAMAN BATRA	06714902015	25	70	95	ABHISHEK KUMAR	40614902015	19	7	26
3	LAKSHYA MUNJAL	04914902015	25	67	92	VARNIKA PAL	09814902015	21	11	32
4	NEERAJ AGGARWAL	06014902015	25	67	92	PARTH MUDGIL	36114902015	20	14	34
5	NAMAN MITTAL	05914902015	25	63	88	SRISHTI	08814902015	20	14	34
6	ROHAN RANGNATH HANDE	07114902015	25	63	88	LOVEPREET SINGH	05014902015	24	15	39
7	SIMRAN KAUR RANDHAWA	08714902015	24	61	85	SAHIL ALBERT EKKA	07414902015	20	19	39
8	SEHEJ SHARMA	07814902015	23	62	85	SACHIN	07214902015	19	21	40
9	VIJAY DALAL	36214902015	25	60	85	MELBIN JACOB	05614902015	19	21	40
10	SANJANA SINGH	40414902015	25	58	83	AARTI TOKAS	35114902015	18	22	40

(Signature of Faculty)

(Programme Coordinator)

(Head of Department)

(Director, MSI)

Compiled by Result Analyzer Software developed by Raman Batra and Neeraj Aggrawal (BCA Batch 2015-18)
Under the Guidance of Ms. Rhythm Choudhary

v. Class Wise Result Report:

MAHARAJA SURAJMAL INSTITUTE
DEPARTMENT OF COMPUTER SCIENCE
MORNING SHIFT
CLASS WISE RESULT ANALYSIS
(Based on Internal and External Marks)

Programme : BCA
Class : Sem 1 Section : A
Max. Marks : 100

Batch : 2015 - 2018
Session : Jan To May 2015

S No.	Subject Name	Faculty Name	Appeared	Passed	>=90%	75-89.99%	60-74.99%	50-59.99%	40-49.99%	<40%	Highest
1	MATHEMATICS - I	a	73	66	4 (5.4795)	15 (20.5479)	13 (17.8082)	20 (27.3973)	14 (19.1781)	7 (9.5890)	97
2	TECHNICAL COMMUNICATION	c	73	71	2 (2.7397)	17 (23.2877)	34 (46.5753)	17 (23.2877)	1 (1.3699)	2 (2.7397)	91
3	INTRODUCTION TO PROGRAMMING LANGUAGE USING C	e	73	67	4 (5.4795)	23 (31.5068)	14 (19.1781)	14 (19.1781)	12 (16.4384)	6 (8.2192)	99
4	INTRODUCTION TO COMPUTERS & IT	g	73	72	9 (12.3288)	19 (26.0274)	35 (47.9452)	7 (9.5890)	2 (2.7397)	1 (1.3699)	96
5	PHYSICS	i	71	65	3 (4.2254)	14 (19.7183)	26 (36.6197)	16 (22.5352)	6 (8.4507)	6 (8.4507)	95
6	PRACTICAL - I C PROG. LAB	k	72	72	23 (31.9444)	34 (47.2222)	15 (20.8333)	0 (0.0000)	0 (0.0000)	0 (0.0000)	99
7	PRACTICAL - II IT LAB	m	72	72	20 (27.7778)	40 (55.5556)	12 (16.6667)	0 (0.0000)	0 (0.0000)	0 (0.0000)	99
8	COMMUNICATION SKILLS	o	73	73	18 (24.6575)	42 (57.5342)	13 (17.8082)	0 (0.0000)	0 (0.0000)	0 (0.0000)	100

(Signature of Faculty)

(Programme Coordinator)

(Head of Department)

(Director, MSI)

Compiled by Result Analyzer Software developed by Raman Batra and Neeraj Aggrawal (BCA Batch 2015-18)
Under the Guidance of Ms. Rhythm Choudhary

6. CONCLUSION

Web application for result analysis of college students is a very effective tool which can be widely used. The application is portable and can be easily installed and used on any machine. It also provides an efficient and user friendly interface and saves time to a great extent. In this research paper authors examined the inadequacies involved in the manual method of compiling analysing students' result in colleges of IPU, Delhi. Result analysis is very important factor for improving teaching. This system helps in automating the existing manual system and motivates paperless work.

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Design and Development of IoT based Intelligent Traffic Management System

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Abstract: Traffic signal management is one of the most important issues intoday's smart city mission of Government of India. This paper aims at developing an Internet of Things (IoT) based intelligent traffic management system for Indian roads. The IoT becomes more prominent due to the enormous data generated by the IoT devices called the Big Data. The Big Data and KNN clustering methods are adopted in the present work for efficient traffic signal management. The work proposes to find the optimized waiting time for the vehicles at traffic signal. Very promising results are achieved in mitigating traffic congestion and minimizing the average travel time in dense populated areas.

Keywords: Traffic Management System, IoT, Vehicle Detection, K-NN Clustering, Big Data.

1. INTRODUCTION

Traffic signal management is one of the major problematic issues in the current time. Intelligent Transportation systems (ITS) are becoming popular in smart cities [1]. ITS manages traffic signals for smooth and strategic traffic management. Traffic signal management system works by applying latest communication technologies such as real-time vehicle-to-vehicle (V2V) and vehicle to infrastructure (V2I) communications for gathering advance information and strategical managing the traffic in real time[2, 3]. The Big Data plays important role in analyzing and extracting useful traffic information that would help in saving driver's time, improving road safety and managing traffic.

The big data depends on IoT(Internet of Things) devices for information gathering. Internet of Things (IoT) is an ecosystem of connected physical objects that are accessible through the internet. IoT is a network in which all physical objects are connected to the internet through network devices or routers. IoT allows objects to be controlled remotely across the existing network infrastructure. IoT is a very good and intelligent technique which reduces human effort as well as provides easy access to physical devices. This technique also has an autonomous control feature by which any remote device can be controlled without any human intervention. Use of IoT in traffic management is a new way to handle the traffic problem.

The efficient transportation system is in great demand for enhancing quality of human life and overall economic development. The IoT can assist in the integration of communication, control, and information processing across various transportation systems. Application of the IoT extends to all aspects of transportation systems (i.e. the vehicle, the infrastructure, and the driver/user). Dynamic interaction between these components of a transport system enables inter and intra vehicular communication, smart traffic control, smart parking, electronic toll collection systems, logistic and fleet management, vehicle control, and safety and road assistance.

The lack of coordination among traffic signals, ineffective traffic light with predefined timers, lack of real-time traffic data and manual control by traffic police are some major issues that requires special attention in the traditional traffic management system. In the absence of real-time traffic data, it can happen that a "green light" is granted to an empty lane while a lot of cars are lined up at a "red light" on the other lanes. The same time interval of green light can be granted to other lane having high traffic load. Therefore, the present paper proposes the design and development of an IoT based traffic signal monitoring system.

2. RELATED WORK

Enormous amount of research has been done in this area by various researchers. The extensive review of the related work done in the field of a traffic management problem is presented here. Sanders and Schultes, [4] proposed algorithm for traffic route planning. The authors described several traffic speedup techniques for static routing in road networks.

Mohana et al., [5] developed a new approach based on real time traffic flux for detecting and counting vehicles. The authors designed a simple differential algorithm and tested it in vehicle detection and counting application. The designed technique is evaluated by considering a 20 different video sequences and weighed thoroughly with simple confidence measures. The proposed approach is found very efficient in traffic signal management.

P.F Alcantarilla et.al., [6] proposed an effective system for vehicle detection in night time. The proposed system detects vehicles based on the mounted cameras on preceding vehicles traveling in the same direction and oncoming vehicles

traveling in the opposite direction. The system helps in automatically changing the vehicle head lights between low beams and high beams avoiding glares for the drivers. The high beams output will be selected when no other traffic is present and will be turned on low beams when other vehicles are detected. The authors used digital image processing techniques in analyzing the light sources and for detecting vehicles in the images. The proposed approach reported excellent results in real-time traffic scenario.

Chen et al., [7] proposed decision based and naive based classification strategy in improving traffic safety research. The authors reported that a comfortable traffic environment would increase the likelihood of lesser road accidents.

Tahilyani et al., [8] investigated traffic congestion problem in urban areas and developed a new lane algorithm to make the traffic flow smooth on roads. The evolutionary algorithm is applied to optimize the results. The proposed algorithm reported significant improvement in solving traffic congestion problem.

Janrao et al., [9] also investigates the traffic congestion problem in urban areas and proposed to utilize the overall capacity of road. The authors developed an algorithm for determining the number of vehicles on the road. The density counting algorithm works by comparing the real time frame of live video by the reference image and by searching vehicles only in the region of interest (i.e., road area). The computed vehicle density can be compared with other direction of the traffic in order to control the traffic signal smartly. The proposed approach reported good results in controlling traffic congestion.

Varia et al., [10] presented a genetic algorithm based technique for joint optimization of signal setting parameters and dynamic user equilibrium (DUE) traffic assignment for the congested urban road network. The proposed method is applied to the real network data of Fort Area of Mumbai city (India) comprising of 17 nodes and 56 unidirectional links with 72 Origin– Destination pairs, where all the 17 nodes are signalized intersections. The authors provide the optimized signal setting parameters for the improvement in traffic conditions.

Roshandehet al., [11] assess the overall impacts of vehicle and pedestrian crashes caused by signal timing optimization in dense urban street networks. The authors implemented empirical Bayesian analysis method for signal timing optimization and studied its safety impacts on the vehicle-to-vehicle and vehicle-to-pedestrian crashes at intersections. The proposed method indicates that intersection signal timing optimization in dense urban street networks has a potential for improving traffic mobility, vehicle and pedestrian safety at intersections, and vehicle safety on street segments.

After extensive literature review it has been found that the traffic lights cause unpredictable delays when navigating through a network of signalized intersections and it is desirable

to utilize IoT enabled devices in controlling and managing the traffic situations.

3. PROPOSED TECHNIQUE

The proposed traffic management technique is divided into four parts. The first part consists of monitoring real time traffic and capturing or processing images/video signals. The images and video signals are received by collecting live data from the satellite images of road, CCTV cameras (installed at various places like road side parking areas, light pole, on vehicles and traffic lights), traffic police and the persons driving the vehicle (through a mobile application) etc. The second part is to select the traffic light areas from the captured videos/images where the vehicles could be present by using image cropping technique. The density of vehicle or vehicle count is identified in third part of the proposed traffic signal management system. The object detection approach is applied to identify the vehicles and KNN based clustering is applied to calculate the density of vehicles. In last part, the traffic information obtained from previous part is used for regulating the flow of traffic.

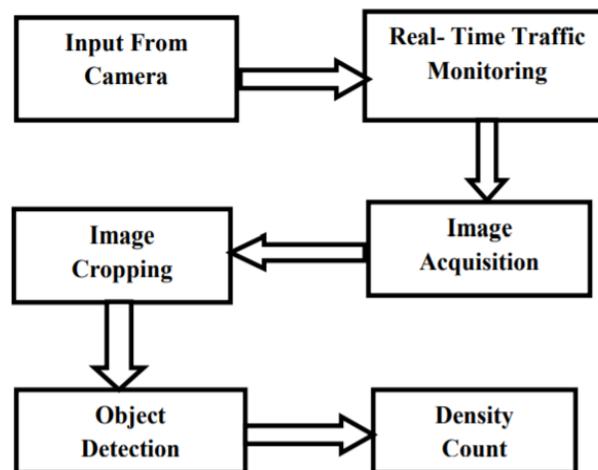


Fig. 1. Various Steps Involved for Predicting the Traffic Congestion

The various steps involved in the proposed system are shown in Figure 1 and can be described as follow:

Step 1- The proposed system utilized the IoT enabled devices in monitoring the traffic. The system observes the number of vehicles and the traffic flow around the traffic light and helps in adjusting the traffic light timings in accordance with the number of the vehicle present in front of the traffic light.

Step 2- If the traffic flow does not become normal or the traffic jam is not cleared then the proposed system can also send the information to the central server.

Step 3- According to the information received, the server informs the nearest traffic police to reach at the site so that he/she can manually clear the traffic jam.

Step 4- Server also sends the notification on the mobile application which is used by the vehicle driver so that they can change their path and avoid heavy traffic. The application provides the best route for the journey using live traffic condition.

Step-5The proposed system utilizes the IoT enabled devices in monitoring the traffic and helps in smooth traffic flow thus reducing the cases of rash driving and accidents at intersections.

4. IMPLEMENTATION AND METHODOLOGY

The proposed traffic management system detects the presence of vehicle around the traffic light by collecting the information such as Local Positioning system (LPS) of vehicles, noise information around the traffic lights and information extracted from the captured images. Here, the Gaussian Mixture Model (GMM) is applied to differentiate between the background color and the vehicle color. The block diagram is shown in Figure 2.

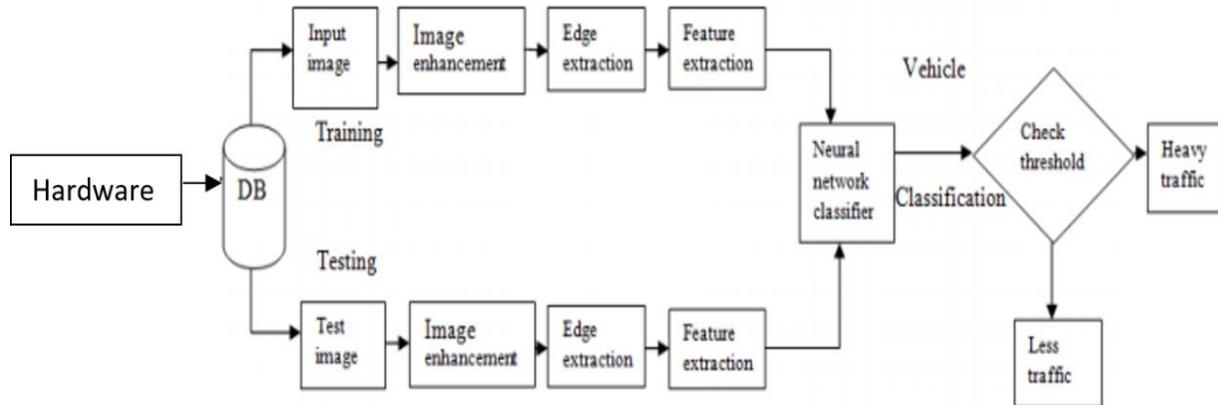


Fig. 2. Block Diagram of the Proposed Traffic Management System

The real time images from different IoT enabled devices and CCTV cameras mounted at traffic light signals are captured and stored in a database. The raw images are further pre-processed to make them suitable for further processing. Image enhancement involves the modification of digital data for improving the image qualities with the aid of a computer. This processing step helps in maximizing clarity, sharpness and details of features of interest towards information extraction and further analysis.

The principal objective of input image enhancement is to process an input traffic image so that the result is more promising compared to the original image for a specific application. Due to wind, road pollution and heavy shutter of the camera, the captured image may not be clear and may not be suitable for further processing. Image enhancement techniques help in separating the background color and object color. In next processing step, edge detection is performed. The edges are those places in an image that correspond to the object boundaries. Edges are pixels where image brightness changes abruptly. An edge is a property attached to an individual pixel and is calculated from the image function which depends on the behavior of the pixels. In the present work, the edge extraction process is used in identifying the vehicle and explained in Figure 3. In feature extraction step, the vehicles are identified from the captured images.

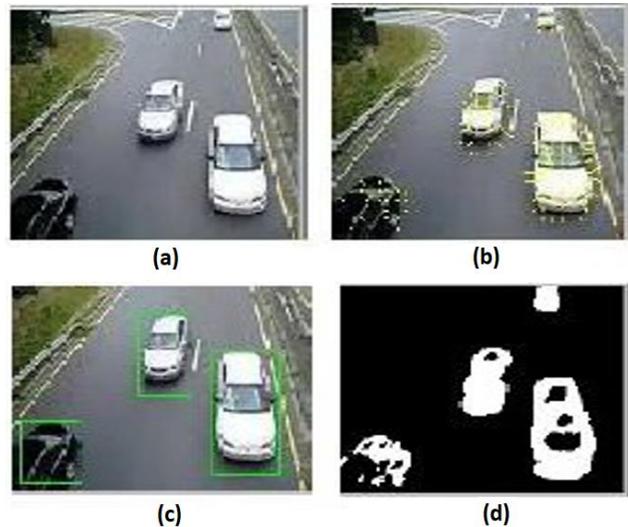


Fig. 3. Vehicle Identification using Edge Detection

The k-nearest neighbour (KNN) clustering method is used for counting the vehicles. KNN algorithm is used for clustering the given inputs. It is a non-parametric method of used mainly for classification and regression model of data analysis. The inputs form the feature space are clustered in k closest outputs. The value of k is chosen on basis of trial and error method. KNN works on the instance-based learning, collects

data from all the four sides of a road crossing in the form of vehicle counts.

A threshold value for assessing traffic is also used in the proposed work. The traffic is assessed by comparing the count of the vehicle in the input image with the threshold value. If the vehicle count value is greater than the threshold value, the output will be heavy traffic or else output will be low/no traffic.

5. DISCUSSION OF RESULT

The proposed system collects information from the drivers and traffic management authorities using IoT enabled devices and analyzes the collected data by applying various data analysis methods. The analyzed information is then updated to the concerned authorities and drivers to minimize the traffic congestion and helps in prioritizing the traffic.

According to the vehicle count as input data, this algorithm decides the signal timing intervals. Traffic signal is kept green for longer time limit to avoid the traffic queuing on this signal if there are many vehicles at that signal. Whenever the traffic density falls below a particular threshold, the signal may be turned red so that the traffic signal for the traffic running in some other direction may be turned green to avoid congestion in that direction.

The work presented here proposes a traffic surveillance system that identifies, classifies and tracks vehicles. The system is general enough to be capable of detecting, tracking and classifying vehicles while requiring only minimal scene specific knowledge. It provides Real Time timer of traffic light, provides the more precise information about the traffic, navigate the traveler to avoid traffic jam, finds the parking space location, monitor the traffic and traffic police at a particular area and, can help in detecting rash driving cases.

6. CONCLUSION AND FUTURE SCOPE

The proposed system of traffic management is much better than traditional traffic management system as it can provide traffic condition more precisely. The image recognition process is not that much precise in fast-moving traffic, but it does not hinder the performance of the system for slow traffic flow.

In future, the proposed traffic management system can be improved by including a module that allows an ambulance to communicate with all base stations, traffic signals and traffic police. The ambulance can get an easy green signal lane to rush

up reaching the hospital as soon as possible. Similarly, other emergency vehicles such as fire fighting vehicles, police vehicles etc. can find green signal automatically with their arrival near the traffic signal.

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DOG Breed Classifier Using CNN

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Abstract: Object recognition is an important problem with a wide range of applications. It is a challenging field, especially for animal categorization as the differences among breeds can be subtle. This work uses computer vision and machine learning techniques to predict dog breeds from images. It uses statistical techniques for dog breed categorization. Dog faces are identified first for each image using a convolution neural network. The output is compared using a variety of classification algorithms, which use these features to predict the breed of the dog. The proposed scheme is tested on a dataset including 8, 351 images of 133 different breeds. Experimental results demonstrate the advocated scheme outperforms state of the art approaches by nearly 84.9282%.

Keywords: Machine Learning, Image recognition, Classification, Convolution Neural Network, Python

1. INTRODUCTION

Classification is one of the most important aspects of machine learning. This work identifies different dogs from different breeds. Dataset is downloaded from Kaggle: Dog Breed Classification. There are totally **10, 000+ images of dogs** in this dataset. Dataset is separated into two parts for training and testing. Since this data is not very big, we use transfer learning to augment the dataset to prevent over fitting. We have tried a method to train the data, and make some improvements to increase the identification accuracy. The models which are used in this work are ResNet18, VGG16, Xception. These are all popular methods to perform the classification. ResNet was proposed in 2015 and won the first place in the ImageNet competition classification task because it is simple and practical. Afterward, many methods were built on the basis of ResNet50 or ResNet101, and detection, segmentation, and identification were performed. Alpha zero also uses ResNet, so it can be seen that ResNet really works well. The number following the ResNet is the number of layers. One of the two models is used for pre-training model and then two full-connected layers are added at the end of the pre-training model. In this paper, we first discuss the dataset used and its cleaning process. It then discusses how the models are used and the improvements made to increase our accuracy.

2. RELATED WORK

Widely used approach in species classification is based on Convolution Neural Networks (CNNs). Hsu, David [6]

approach the dog breed classification using CNNs based on LeNet and GoogLeNet architectures. The architectures for LeNet include (number of CONV-RELUPOOL) x N + (number of FC) x M + FC-120 and this architecture performs pretty well on many classification problems like ImageNet. As for GoogLeNet, it can reduce overfitting while maintaining good performance on classification. Similar to Hsu's approach, we use CNNs to identify 133 breeds of dogs. The difference is instead of LeNet and GoogLeNet. We have used ResNet, VGG. We also introduce transfer learning to improve the accuracy. Compare to Hsu's model, present model is less complex and its running time is much shorter.

3. DATASET AND FEATURES

ImageNet is a large visual database designed for use in visual object recognition software research. Over 14 million images have been hand-annotated by ImageNet to indicate what objects are pictured. The dataset we used is from Kaggle: Dog Breed Classification. This dataset contains more than 10000 images and totally 133 breeds of dogs, and all the images are from ImageNet.

Every image in the dataset has its own dog breed. I divide the dataset into two parts: train set and test set. Train set occupies about 90% of the whole dataset, and the rest is test set. All the data are RGB images, and in the center of each image, there is the body of the dog. The features we use are color, shape and texture. As we can distinguish different dog breeds from colors, shape of organs, and texture of the body and so on. CNN uses convolution layers to extract those features from the images. As the number of images in the dataset is not big enough, we also did some pre-processing to enlarge the dataset. We resize all the images to a fixed resolution of 224x224.

4. METHODS

As the dataset contains only about 10000 images, which is a small dataset to train a good neural network, we decide to use transfer learning to train our own model. Transfer learning is a research skill in machine learning that focuses on storing knowledge gained while solving one problem and applying it to a different but related problem. Transfer learning saves time, and it can also solve some problems that may be caused by a small dataset. To implement transfer learning method, firstly we need to choose a good pre-trained model. In this paper, we tested three different pre-trained models, and finally selected the one with the best performance on our dataset, as our based

model, to do transfer learning. The three models we tried are ResNet18, VGG16, Xception. As there are totally 133 breeds of dogs, the final amount of labels after classification should be 133. To fit the model mentioned above to our dataset, we need to add some fully connected layers at the end of the model as our classifier layer.

4.1 Valid Dataset in ML

A validation dataset is a sample of data held back from training the model that is used to give an estimate of model skill while tuning model's hyper parameters. The dogImages dataset contain 8351 files in which Test contains 836 files, Train contains 6680 files and Valid contains 835 files.

4.1.1 Setting up the algorithm's building blocks

To build our algorithm, we'll be using Tensor Flow, Keras (neural networks API running on top of TensorFlow), and OpenCV (computer vision library). Training and testing datasets were also available on-hand.

4.2 Building CNN Classifier using Transfer Learning

Compile and Training

```
[ ] VGG16_model.compile(loss='categorical_crossentropy', optimizer='rmsprop', metrics=['accuracy'])
    checkpointer = ModelCheckpoint(filepath='saved_models/weights.best.VGG16.hdf5',
                                  verbose=1, save_best_only=True)
    VGG16_model.fit(train_VGG16, train_targets,
                   validation_data=(valid_VGG16, valid_targets),
                   epochs=20, batch_size=20, callbacks=[checker], verbose=1)
```

```
☞ Train on 6680 samples, validate on 835 samples
Epoch 1/20
6680/6680 [=====] - 4s 566us/step - loss: 12.2107 - acc: 0.1277 - val_loss: 10.8695 - val_acc: 0.2108

Epoch 00001: val_loss improved from inf to 10.86950, saving model to saved_models/weights.best.VGG16.hdf5
Epoch 2/20
6680/6680 [=====] - 2s 328us/step - loss: 10.1587 - acc: 0.2844 - val_loss: 10.0924 - val_acc: 0.2802

Epoch 00002: val_loss improved from 10.86950 to 10.09235, saving model to saved_models/weights.best.VGG16.hdf5
Epoch 3/20
6680/6680 [=====] - 2s 329us/step - loss: 9.5963 - acc: 0.3421 - val_loss: 9.7690 - val_acc: 0.3281

Epoch 00003: val_loss improved from 10.09235 to 9.76895, saving model to saved_models/weights.best.VGG16.hdf5
Epoch 4/20
6680/6680 [=====] - 2s 338us/step - loss: 9.3043 - acc: 0.3801 - val_loss: 9.6634 - val_acc: 0.3281
```

Test and check accuracy

```
[ ] VGG16_model.load_weights('saved_models/weights.best.VGG16.hdf5')

[ ] # get index of predicted dog breed for each image in test set
    VGG16_predictions = [np.argmax(VGG16_model.predict(np.expand_dims(feature, axis=0))) for feature in test_VGG16]

    # report test accuracy
    test_accuracy = 100*np.sum(np.array(VGG16_predictions)==np.argmax(test_targets, axis=1))/len(VGG16_predictions)
    print('Test accuracy: %.4f%%' % test_accuracy)
```

```
☞ Test accuracy: 44.3780%
```

5. VGG16 MODEL

Once it is detected humans and dogs in images, we need a way to predict breed from images. In this section, we will create a CNN that classifies dog breeds.

To reduce training time without sacrificing accuracy, we'll be training a CNN using Transfer Learning—which is a method that allows us to use Networks that have been pre-trained on a large dataset. By keeping the early layers and only training newly added layers, we are able to tap into the knowledge gained by the pre-trained algorithm and use it for our application.

Keras includes several pre-trained deep learning models that can be used for prediction, feature extraction, and fine-tuning.

Compile & Test the Model

Now, we can use the CNN to test how well it identifies breed within our test dataset of dog images. To fine-tune the model, we go through 20 iterations (or 'epochs') in which the model's hyper-parameters are fine-tuned to reduce the loss function (categorical cross-entropy) which is optimised using RMS Prop.

Provided with a testing set, the algorithm scored a testing accuracy of 44.4780%

6. RESNET50 MODEL

Compile & Test the Model

```
[53] Resnet50_model.compile(loss='categorical_crossentropy', optimizer='rmsprop', metrics=['accuracy'])
      checkpointer = ModelCheckpoint(filepath='saved_models/weights.best.Resnet50.hdf5',
                                   verbose=1, save_best_only=True)
      Resnet50_model.fit(train_Resnet50, train_targets,
                        validation_data=(valid_Resnet50, valid_targets),
                        epochs=20, batch_size=20, callbacks=[checkpointer], verbose=1)
```

Train on 6680 samples, validate on 835 samples

Epoch 1/20
6680/6680 [=====] - 3s 513us/step - loss: 2.6209 - acc: 0.5061 - val_loss: 1.3753 - val_acc: 0.6898

Epoch 00001: val_loss improved from inf to 1.37526, saving model to saved_models/weights.best.Resnet50.hdf5

Epoch 2/20
6680/6680 [=====] - 2s 277us/step - loss: 0.9596 - acc: 0.8187 - val_loss: 1.1942 - val_acc: 0.7485

Epoch 00002: val_loss improved from 1.37526 to 1.19416, saving model to saved_models/weights.best.Resnet50.hdf5

Epoch 3/20
6680/6680 [=====] - 2s 258us/step - loss: 0.6203 - acc: 0.8768 - val_loss: 0.9959 - val_acc: 0.7713

Epoch 00003: val_loss improved from 1.19416 to 0.99595, saving model to saved_models/weights.best.Resnet50.hdf5

Epoch 4/20
6680/6680 [=====] - 2s 262us/step - loss: 0.3940 - acc: 0.9250 - val_loss: 0.8482 - val_acc: 0.7665

```
[54] Resnet50_model.load_weights('saved_models/weights.best.Resnet50.hdf5')
```

```
# get index of predicted dog breed for each image in test set
Resnet50_predictions = [np.argmax(Resnet50_model.predict(np.expand_dims(feature, axis=0))) for feature in test_Resnet50]

# report test accuracy
test_accuracy = 100*np.sum(np.array(Resnet50_predictions)==np.argmax(test_targets, axis=1))/len(Resnet50_predictions)
print('Test accuracy: %.4f%%' % test_accuracy)
```

Test accuracy: 80.8612%

Provided with a testing set, the algorithm scored a testing accuracy of 80.8612%

XCEPTION MODEL

Compile & Test the Model

```
[46] Xception_model.compile(loss='categorical_crossentropy', optimizer='rmsprop', metrics=['accuracy'])
      checkpointer = ModelCheckpoint(filepath='saved_models/weights.best.Xception.hdf5',
                                   verbose=1, save_best_only=True)
      Xception_model.fit(train_Xception, train_targets,
                        validation_data=(valid_Xception, valid_targets),
                        epochs=20, batch_size=20, callbacks=[checkpointer], verbose=1)
```

Train on 6680 samples, validate on 835 samples

Epoch 1/20
6680/6680 [=====] - 6s 970us/step - loss: 1.0514 - acc: 0.7413 - val_loss: 0.5160 - val_acc: 0.8263

Epoch 00001: val_loss improved from inf to 0.51600, saving model to saved_models/weights.best.Xception.hdf5

Epoch 2/20
6680/6680 [=====] - 4s 586us/step - loss: 0.3968 - acc: 0.8744 - val_loss: 0.4707 - val_acc: 0.8623

Epoch 00002: val_loss improved from 0.51600 to 0.47072, saving model to saved_models/weights.best.Xception.hdf5

Epoch 3/20
6680/6680 [=====] - 4s 563us/step - loss: 0.3228 - acc: 0.9006 - val_loss: 0.4827 - val_acc: 0.8479

Epoch 00003: val_loss did not improve from 0.47072

Epoch 4/20
6680/6680 [=====] - 4s 539us/step - loss: 0.2718 - acc: 0.9127 - val_loss: 0.4955 - val_acc: 0.8611

```
[47] Xception_model.load_weights('saved_models/weights.best.Xception.hdf5')

# get index of predicted dog breed for each image in test set
Xception_predictions = [np.argmax(Xception_model.predict(np.expand_dims(feature, axis=0))) for feature in test_Xception]

# report test accuracy
test_accuracy = 100*np.sum(np.array(Xception_predictions)==np.argmax(test_targets, axis=1))/len(Xception_predictions)
print('Test accuracy: %.4f%%' % test_accuracy)

Test accuracy: 84.9282%
```

Provided with a testing set, the algorithm scored a testing accuracy of 84.9282%

7. CONCLUSION AND LIMITATIONS

In our project, we implement the CNNs to identify 133 breeds of dogs. We first pre-processed our data set by: 1. Putting the same breed of dog images into the same folder; 2. Augmenting the dataset. Second, we use transfer learning to moderate the problem that our dataset is not big enough and improve accuracy. Third, we train our model and tune the parameters to find the optimization. We also use adaptive learning rate to improve our model. Then, we use multimethods (dropout,) to avoid over fitting.

The final model was able to produce **84.9282%** accuracy classifying on 133 breeds.

On a final note, I noted that that the algorithm is prone to errors unless it's a clear facing shot with minimal noise on the image. Hence, we need to make the algorithm more robust to noise. Also, a method we can use to improve our classifier is image augmentation which allows you to "augment" your data by providing variations of the images supplied in the training set.

8. FUTURE WORK

In the future, there are three directions we can go. First, in our project, we only use CNN to implement classification. To make a better choice, we can compare it with other train models like SVM and PCA. Second, in our model, we only add two FC layers after pre-trained model. To improve the accuracy, we can try to add more layers. Third, our accuracy is still not large enough. To improve accuracy, we can try other methods to avoid over fitting (like stop early) and tune the parameters (like learning rate, momentum and batch size).

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Promises and Potential of Evolutionary Big Data Processing Techniques

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Abstract: In this new Era of data storage system, the data is stored in the form of multiple ways such as organized, formless and semi structured form, therefore it is necessary to have an expectant key to handle the loch of Big Data, such as Hadoop. Big Data environment is recently emerged domain in advance technologies which has been adopted the by the evolutionary world to analyze and examine the huge data sets through which hidden patterns, unknown correlations and other meaningful information can be explored for better decision making. To describe the promise and potential of big data analytics, this paper describes the embryonic field of big data analytics in different fields, confers the benefits, summaries an architectural framework and methodology, labels example reported in the literature, briefly discusses the contests, open Issues and challenges and offers conclusions. Hadoop: As a Solution” is also demonstrated here to handle the data in real time which is undoubtedly found beneficial for research scholars and academics.

Keywords: Big Data, Hadoop, MapReduce, HDFS.

1. INTRODUCTION

The data drives from the various sources such as mobile services, retail market, manufacturing, bank services, stock market, research centres, life sciences and physical science etc. may be in kilobytes, Gigabytes, megabytes, Terabytes, Petabytes, Exabyte and Zeta bytes. During the year 2003 the evolution begins, that time we created only 5 Exabytes of information, but after few years of computer usage and evolution presently by 2012 we generate that equivalent amount in just two days, if we consider data of digital universe

that will cultivate to 2.72 Zettabytes and by 2015 that will twice over every two years to reach 8ZB. Even this Big Data also revolutionized the scientific research which needs to be analysed for meaningful information, trends, patterns and association especially related to human behaviour and interaction that intonates the business on a day to day basis. This generated data may referred to structured which is in the form of relational database, unstructured which may be in the form of document of any kind and semi-structured which is in the form XML. To transform the outcomes through some emerging tools and technologies, acceptance of Big Data solution plays its significant vital role. So some of the new computational and analysing technologies based on massively parallel processing databases have emerged, which can concurrently distribute the processing of very large data sets of data across many cluster of commodity hardware. In this context, Hadoop provides such a framework that has become the de facto standard in both academic and industries.

The main reasons of such popularity are the ease-of-use, scalability, and failover properties of Hadoop MapReduce.

Many research works (from industry and academia) have focused on improving the performance of Hadoop MapReduce jobs in many aspects. For example, researchers have proposed different data layouts; join algorithms, high-level query languages, failover algorithms, query optimization techniques, and indexing techniques.

2. PILLARS OF BIG DATA (5 V’S):

To describe the phenomena of Big Data the 5 V’s can be considered as the valuable pillars which can be depicted from the below diagram:

Volume	Variety	Velocity	Veracity	Value
High	High	Critical	Low	Critical
All past transactions on physical retailer shops Clients loyalty cards and associated information	Products Sold Clients Visits Social Media Environmental Factors	Generating business reports in real-time from the transactions of every store	Data was generated from internal systems, so retailers have full control over it	Real-time view of the business for maximizing revenue while increasing customer satisfaction

Fig (1): 5 Pillars of Big Data

Volume (Quantity of data, terabytes to zettabyte):- Data produced and accumulated continuously and create unthinkable amount of data and genomics etc are growing rapidly.

Velocity (Pace of generation): - (Pace of data generation) [9] Real time data growing at very high rate. Traditionally healthcare is static [14]. Constant rate of new data creation presents new challenges [7] in data collection, data storage, analysis, modelling and data delivery.

Value (Meaningful data): - The Big Data may deliver meaningful value in almost every academic and industrial area which helps you provide the security aspects. It refers to the process of finding hidden values from huge amount of data sets [1].

Veracity (Meaningfulness): It refers to the ‘data assurance’ and ‘data trust’ [14]. Veracity is the goal of data analytics. Because data generated through the highly unstructured and has the total concern with life and death, so data quality and correctness is the main issue.

Variety (Multiplicity in data formats): - [9] Refers to the complexity and heterogeneity of data refers to the different types of data we can now use. In the past we focused on structured data that neatly fits into tables or relational databases such as financial data.

Volatility: - It refers to the data validity and longevity means how long data will be useful for us and it is also important to know when the data is no longer appropriate for processing and analysis [18].

3. LITERATURE REVIEW

S. Lavanya et al.(2016).the purpose of the paper is to prove a clear vision on HDFS and Hadoop Map Reduce. Along with the definition of big data paper presents some importance of big data and brief overview on Hadoop component: HDFS and Map Reduce. Components of HDFS: name node, data node, secondary node and overview of Map Reduce framework with a java based Map Reduce program. The paper concludes by saying that big data concept is not applied to replace normal traditional system rather than it is coordinating our traditional system with new features. HDFS and Map Reduce are widely accepted tools in many areas such as: - health, financial service sector, cyber security, defence, and telecommunication. Gandomi A. and Haider M. (2014). “Beyond the Hype: Big Data concepts, methods and analytics”, a consolidated picture of big data is given in this paper by integrating definitions from academics and practitioners. Usage of analytics methods and tool techniques for unstructured data are the primary focus of this paper to gain valuable and valid insights form complex data. To leverage huge amount of heterogeneous data in audio, video and text formats, the basic need of developing efficient and appropriate analytical methods are tinted in this paper by the researchers. For structured big data, the need to devise emerging tools and methods for predictive analysis is also

reinforced by them. Kapdoskar R. et al. (2015). “Big Data Analytics”, followed up by having a main goal of good understanding of data mining process for big data analytics by implementing a web crawler. They proposed an algorithm for designing a web crawler for handling the big data. Data cleaning is suggested for removing the inconsistencies from the collected data by the web crawler that will be further migrated to database for integration, analysis and visualization. G. Malewicz et al. “Pregel: A system for large-scale graph processing” suggested about the platform other than Hadoop, which is graph centric, supports the partitioning of models including in-built scheduling and mechanism for consistency. B Sarala Devi et al. (2015). “Big Data and Hadoop – A Study in Security Perspective”, suggested some approaches which concerns with the security issues occurs in Hadoop environment. Researchers mainly focused on issue raised in Hadoop’s bottom layer i.e. HDFS which is more sensitive to the hazard of data spoofing, unauthorized access and unnecessary exposure.

4. PROCESSING MODEL OF BIG DATA REVIEW:

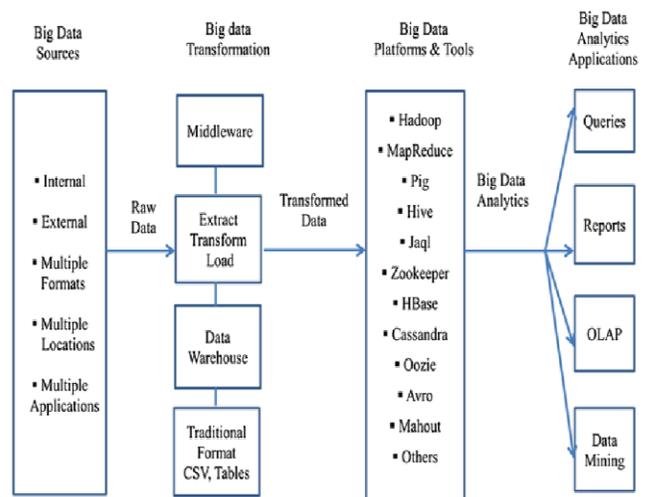


Fig (3): Big Data Analytical Processing Model

Following phases are involved in the Big Data processing lifecycle; such as Data Acquisition, storing, processing, making models tools for analysis etc. These tasks can be performed over the whole framework by these following steps:

1. Data Discovery and Collection:

Data generated from the various sources are in all forms (structured, semi structured, unstructured). Internet based navigation sites are perhaps most publicized collector of consumer data, such as yahoo, Amazon, Google or Bing.

2. Data Preparation:

Data preparation consists of a few steps such as exploration, pre-processing due to modelling and analysis in further phases given below.

- Performing ETL: After data collection, the main and subjective step is to be done is Data cleaning and filtration.
 - Pre-Processing: In the process of cleaning, Pre-processing is the critical step in which the database normalization and transformation activities takes place.
 - Data Overview: For seeing and evolution of data patterns after pre-processing, the Data overview is done which reflects the better and efficient understanding. Such as visualization is the process which takes place to identify new patterns or grab difficult concepts.
- 3. Model Planning and Building:** In this phase Design team works on some mathematical and Statistical packages such as SAS (Statistical Analysis System), R, MATLAB, SPSS

(Statistical Package for Social Sciences). These analytical models are designed for the evolution and training of data against the test data.

- 4. Communicative Results:** On the basis of approved hypothesis the team needs to discuss about the failure or success of the results.

5. HADOOP: AS A POTENTIAL SOLUTION:

Hadoop is java written, Apache open source distributed framework that stores extremely large amount of various type of data by unstable structures (or no structure at all) and using single programming model this framework allows running distributed processing applications on clusters of computers.

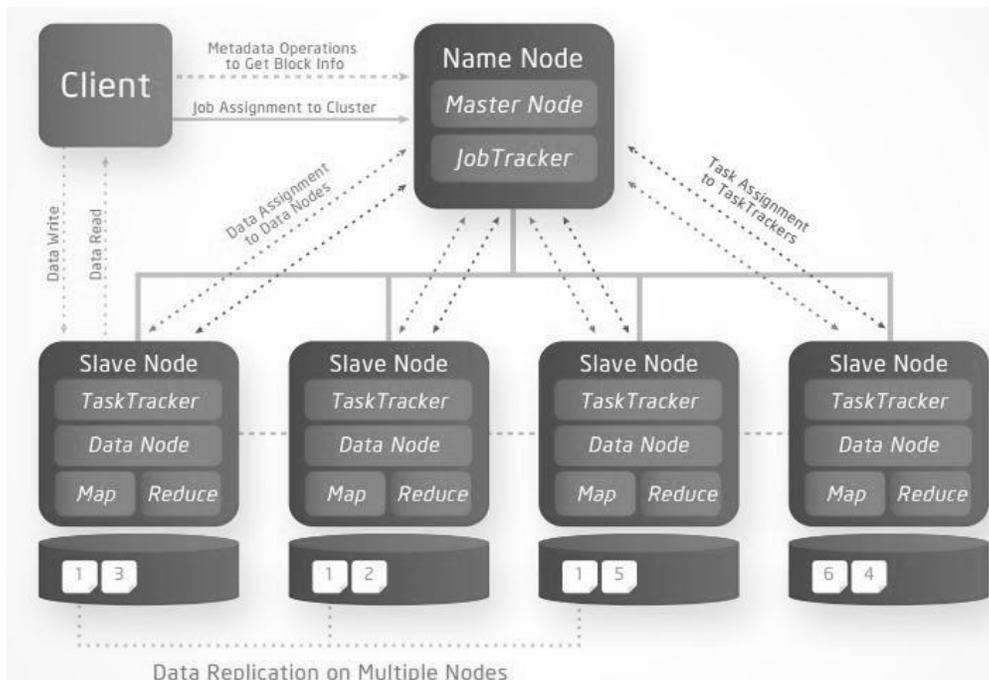


Fig. (4): Working Model of Hadoop

- Hadoop framework is open source software from apache written in java for the scalable distributed applications.
- This framework consist of multiple parts such as- HDFS, MapReduce, YARN(for resource management)
- It will run on cheaper hardware systems (i.e. cost effective).
- We can make 1000 of nodes on commodity hardware; it will increase the storage and more processing power.
- By using Map Reduce we generate result in a single day.
- Due to the use of nodes Hadoop provides vast data storage.

- It provides the automatic fail recovery.
- Hadoop is scalable means without stopping the processing we can add new nodes.

6. OPEN ISSUES AND CHALLENGES:

To address the issues in Big Data currently there are number of tools available, that still cannot solve the real problem of storage, sharing, visualization, searching and security. Furthermore, the Hadoop and MapReduce are the strategies that possess low level setup. They are lack query processing tools, with respect to processing and management of data. The three broad categories of Big Data challenges include the cloud computing, IoT (Internet of things), Quantum computing, Bio-

inspired Computing, Data centres. Briefly IoT presents challenges in combinations of volume, velocity and variety. Additionally the biggest challenge is the Knowledge acquisition from IoT data that currently big data professional are facing. The continuous stream of data is generated from the IoT devices. For getting important information from these continuously stream of data is challenging task. To handle this Big Data from IoT Prospective, Machine learning is the only solution. Secondly to handle such massive amount of data generated from different sources the cloud computing helps in designing the analytical and business models such as SAS, R etc. This use of virtual computers is known as Cloud Computing which provides the facility to deal these large applications.

The third issue related to qubits that can only be solved by Quantum computers (qubits refers to any quantum system that encodes the zero and the one into two distinguishable quantum states). To process the information the Quantum computing delivers a way to merge the quantum machines. This phenomenon is known as superposition and entanglement. To build a quantum computing system and to facilitating this computing system is the real challenging task.

On the other hand confidentiality, Heterogeneity, Accuracy, Data inconsistency, scalability, timeliness and security are considered as major challenges in Big Data World.

7. CONCLUSION

The big data age is about the creation of potential information through the use of efficient analytic techniques rather than not to just collecting and storing the data. In theoretical manners Big Data is frequently discussed topic, nevertheless there are introduced and well – known technologies such as Apache Hadoop building upon a Distributed files system (HDFS) along with MapReduce framework. We conclude this paper by providing broad overview of big data with its tools and technology. For the Predictive analytics of such scattered data this paper reinforces the need to concoct new tools. In this paper some open issues along with appropriate adopting Research trends of Big Data analytics is comprehensively mentioned. For some particular problems that could not be addressed by Hadoop, but for this available solution is MATLAB (which provides a different approach of a cluster computation run over a shared file system). Big Data is branded by several benefits and challenges, hence additional research trends are needed to recover and improve these open issues. The basic requirements to enhance such researches are human resources, capital investments and innovative ideas which will help in future research trends.

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MSI Event Informer and Learning Helper - An Android Application

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Abstract: *In our college there are lot of events organized by our college and also by the various societies of our college. There is difficulty for the events head to make aware each and every student about the event. They can make aware student by means of posters and also by sending creative messages through whatsapp. But it is little bit difficult to send messages to all the classes of the college. Now second concern is that almost all the students purchase book which contain solved previous year papers, but answers are not good. So this paper presents the drawbacks of existing system and benefits of proposed system to solve the problems mentioned above.*

Keywords: *Android Studio, Google forms, Firebase, Event management, Solved papers.*

1. INTRODUCTION

In our college there are lot of events organized by our college and also by the various societies. But there are many difficulties for the events head. First is to reach all the students of our college. It is difficult for the event head to tell all the students about the event. They can reach students by means of posters which is waste of paper and by means of sending messages through various apps, which is difficult for the event head to reach all the classes of the college and also by uploading event at college's website.

Second difficulty is that many students those who are interested to participate in events, lose opportunity due to lack of awareness. For example if event is uploaded on the college's website then there is no notification facility and there are no such students those who check website on daily basis and they lose their opportunity to participate in events.

Also there are many students those who are not interested in events but interested in learning. Also almost all students purchase book which contain solved previous year papers, but answers are not good in these types of books.

Also there is one more thing that students did not check the college's website on daily basis, so they did not know about the important notices. And also teachers send these notices on the whatsapp group of their respective classes. So, all the teachers need to work. But if there is one common app for the

college where all the mentioned things are available then it is very easy for the teachers as well as for the students.

In this paper we are proposing an Android application, "MSI Event Informer and Learning Helper" which is built to resolve problems related to events and learning related issues for the students. In section II and III, Objective and Introduction to our app is stated. In Section IV we provide Technologies used to make this app. In section V and VI we provide drawbacks of existing systems and benefits of our App is described. Section VII describes the Insights of our app and section VIII includes the conclusion and future scope of the app.

2. OBJECTIVE

Our app Objective is to solve the problems faced by Event heads and students. Also to solve problem related to learning. This includes :

- Reduce work of event head
- Provide better learning material
- Aware all the students
- Provide good answers of previous papers
- To make Useful for all the students

3. INTRODUCTION TO OUR APP

Our app "MSI – Event informer and learning helper" is used to inform about the events and to provide better learning material. Our app consist of 3 sections, Staff corner, Student corner and society corner. In staff corner the college related events would be added by staff and also there is notice section where college related Notices would be added by teachers. Also in this section we can also able to add the results for the events. The next section is Student corner where teachers can upload previous year papers solutions and also notes for their respective subjects. In society corner the society heads can add events which are organized by the societies and can also add result related to these events.

4. TECHNOLOGIES USED

There are mainly 3 tools used to make this app, Android Studio, Firebase, Google Forms:

Android Studio: Android Studio [2] is the best official Integrated Development Environment (IDE), specifically for developing high quality applications that run on devices based

on Android operating system. It has various features like grade integration, drag and drop facilities, advanced code editing, debugging and testing, due to which it has become much popular and is widely being used [3]. As android studio supports instant building and deployment of application on any android device or emulator, hence we are using it for building our app which has various complex features.

Google Forms: Google Forms [4] is a tool that is free with ones Google account and have various exiting features like one can add any standard question types, drag and drop the questions in any order, the form can be customized with simple photo or any color themes, and gather all the responses of the forms directly into a Google spreadsheet. As Google forms are eco-friendly and virtually unlimited number of people can be connected from any corner of the world, therefore we will be using it for conducting an online survey, so as to identify more problems faced by working women.

Firebase: It is a mobile and web app development platform that provides developers with the tools and services to help them develop high quality apps. It various services like Real-time database that is used to store information related to our app, Firebase authentication which is used to authenticate users, Firebase messaging services which is used to send notification to the users and many more which makes firebase very useful.

5. DRAWBACKS OF EXISTING SYSTEMS

There are various issues with the existing system, some of these are as follows :

- No such mobile application till now
- Excessive amount of work to make aware the students is done by the event team
- No notification facility that remind the student for the events
- No platform where teachers share their notes or learning material to all the students
- No such platform where the solution of previous year papers given by the teachers

6. BENEFITS OF PROPOSED APP

The proposed app includes characteristics to solve the most of the problems of the event heads and the students. The various benefits of the proposed app are as follows:

- It reduces the workload of the event organizer as they only have to upload the event details to this common app
- Notification facility for the participants
- Better learning material
- Good Solution of the previous year papers as given by the teachers
- Students can register and ask their query by just one click

- Easy and Interactive GUI
- Online results for the events

7. INSIGHTS OF APP

“MSI – Event informer and Learning helper” is an android application which is used to help event organizer, participant and the learning enthusiast students. Currently our app contains 3 Sections namely Staff section where college staff can login and add events and results of the events organized by the college. Second is Student corner where teachers can login and upload notes and solution to previous year papers and also students can go to this section to learn from the notes and solution for the previous year papers. And third section contains Society corner where society heads can login and upload the events and results of the events organized by their societies.

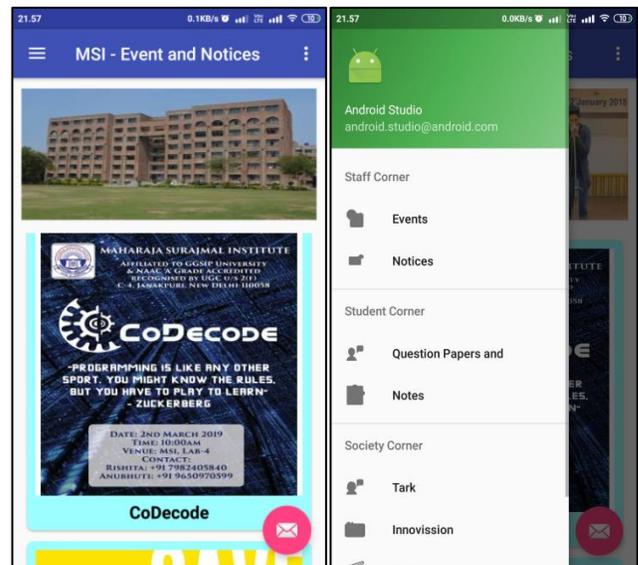


Fig. 1. Main Interface

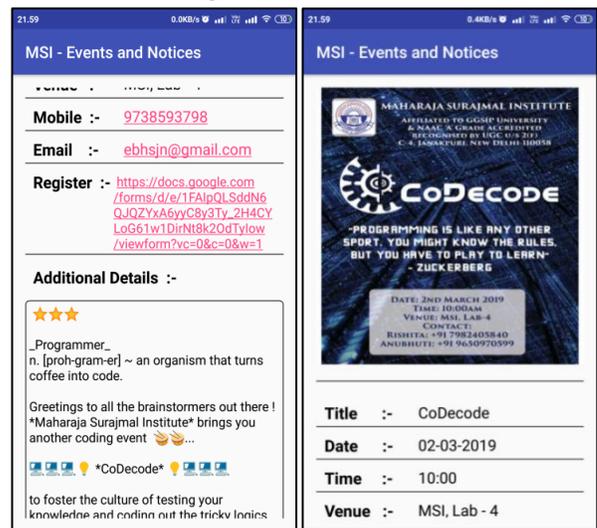


Fig. 2. Event Details

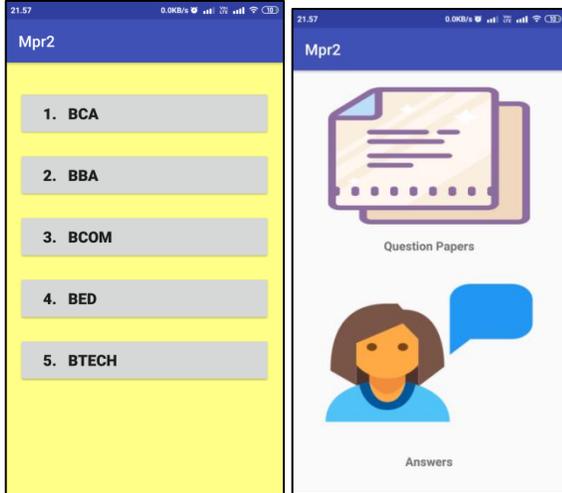
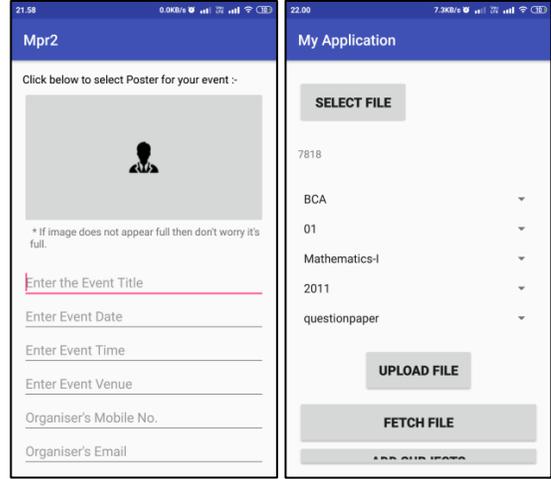


Fig. 3. Previous year papers and solutions



(a) (b)

Fig. 6. Adding new events, papers and solutions

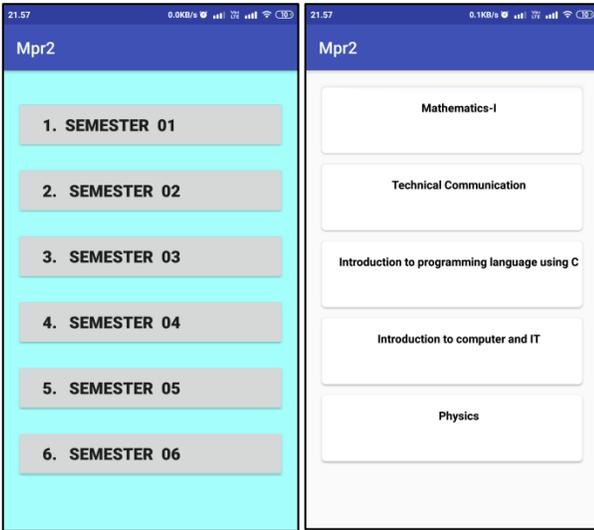


Fig. 4. Selecting semester and subject

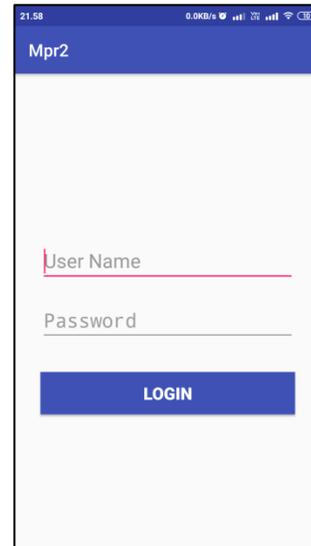


Fig.7. Login for teachers and event head

(A) MODULES FOR STUDENTS

Mainpage

In main page of the app all the events and notices are display as shown in Figure1 and student can click on any event to see the details of the events and notices.

Event Details

In event details module the details about the events are displayed as shown in Figure2. Details like event name, place, date, time, link to register through Google form and also participant can ask query by just clicking on phone no. to call and by clicking on email to ask query through mail.

Previous year paper and solutions

Student can go to this module by clicking on previous paper and solution in navigation drawer as shown in Figure1, where

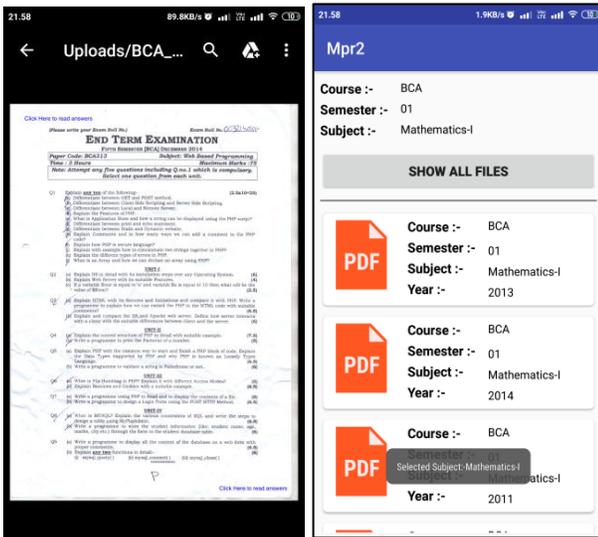


Fig. 5. Selecting PDF and display it

students can select whether they want question paper or solution. After selecting one of the above, student can find a PDF for the respective by choosing their course, semester and subject and view the question paper through PDF viewer as shown in Figure3, Figure4 and Figure5.

(B) MODULES FOR THE TEACHERS AND EVENT ORGANIZERS

Login Module

Through this module teachers and event organizers logged in through the id and password provided by app developer to add the events and notices(for teachers and event organizers) and to add previous year papers and solutions(for teachers only) shown in Figure7.

Staff corner

This is the module in which teachers can click on events and notices section in navigation drawer as shown in Figure1. After that teacher can click on floating button with + Symbol, after that teacher can login to add events and notices related to college shown in Figure6(a).

Society Corner

This is the module for the event organizers of the events which are organized by the Society. There are various different sections for the various societies in navigation drawer specify with the society name as shown in Figure1. Now event head can click on their respective society and then click on floating button with + symbol. After that they can login and add new events.

Add previous year papers, Solutions and notes

This section is only for the teachers to add previous year

papers and solutions. Teachers can click on previous year paper and solution or notes section in Student corner where teachers can click on floating button with + symbol and then login to add previous year papers, solutions and notes. In this way app provides better learning material for the students.

8. CONCLUSION AND FUTURE SCOPE

In this paper, we have presented various problems faced by the event organizers, participants and the students, and the drawbacks of the present systems. We have found the solution for the above problems as an android app “MSI – Event informer and learning Helper”.

In future, this research would be extended by taking few steps:

- E-Certificates facility will be included so that winners can download their certificates through this app.
- Map facility can be included so that participant can directly find a place through this app where events are organized.

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Fitness App-Personalized Mobile App for Health and Fitness

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Abstract: *The research paper is aimed to develop a Fitness App in an android based environment that basically made for those people who have no time for gym by their personal and professional reasons. The focus was on the group who were unable to go out and preferred home for doing exercise's and are really interested in these types of app. Today's people are focusing on their fitness and health related issues; all these have been taken care in this app and it is useful for performing self-designed scheduled workout .*

Keywords: *Fitness, Health, Exercise, Android App, Diet Plan*

1. INTRODUCTION

Over recent years the world has seen a spike in the download and usage of fitness app and health apps. In 2014 fitness apps usage grew at a substantial rate, being up there as the most used category of application for that year. Since then it has maintained its user base and continuous to grow, with the inclusion of wearable's like Google fit, fitbit and health kit[1, 2]. This is the dawn of a new era; an era where people look more to their mobiles on their fitness watches to check on their health, rather than the traditional method of going and seeing a doctor. These apps provide a great avenue for those who are interested in working on fitness levels runners, cyclists, and gym goers alike. Everything can be tracked nowadays; even the standard iPhone comes with a health app built in, with a range of features.

There are many apps related to fitness and the popular one are 30 days fitness challenge, home workout, fitbit, mapmyride and mapmyrun. Some apps are only meant for runners and cyclist and merely given the amount of calories burned and route statistic; others count the number of steps and monitor the heart beats and rest contains list of exercises for users and most of these exercises are not for the beginners[3].

The observations come after examine these apps are that many apps contain not as many required features and even some of its features are not of any use. It leads to the objective of making the apps with only required features and easy to use facility.

This app was developed to be based solely around the user's health and fitness, so all the features in it are based around this. The app was built in android studio and each page of it

was designed following the same theme. Each feature has an individual class which can be accessed from the homepage. Through customizing our colors.xml file we was able to create a color scheme which is present throughout every page of the app. Using different layouts and layout components we were able to design each page as we saw fit.

2. BACKGROUND AND MOTIVATION

After using a variety of fitness apps on a day to day basis it became frustrated with all of the clutter and irrelevant features included with them. Some of these apps are too complex and can take away from the apps its main purpose.

Simplicity could go a long way in a health/fitness application. This is one of the reasons for building a simpler fitness app. There were many things we noticed while testing other apps on a day to day basis which we felt could be included in an app[4, 5]. For example, these apps do not have good list of exercises especially for women.

There are so many complex and extravagant apps out there for almost every aspect of health/fitness and to be honest there really isn't much that hasn't already been done in this market. But it's a great idea that we wanted to create an app that would implement each of these aspects simply, so as to be hassle free and not take away from the goal which the user set out in the first place.

3. OBJECTIVE

The purpose of our research is to develop an application that is valuable to gym goers and people who exercise in general who would like to do workouts on their own and accomplish their fitness goals. The app was designed by keeping the following objective on priority.

The graphical user interface of the app should look appealing to the user so as to entice them. The app should provide a pleasant experience and provide a feeling of accomplishment after being used to encourage recurrent usage. It should be highly accessible regardless of the user's familiarity with applications. Whether the user is a novice or is experienced, the app will be good for both. The key part of this app is simplicity and this app will provide a few features popular in this market, through a simple and straight to the point application. The app should also provide the user with a fun experience.

4. ABOUT THE APPLICATION

The popular modules we included in this application are:

- **Exercises:** It basically shows different kinds of exercises for all people with options like easy level, mediator level or advance level that can be performed in order to be keep themselves fit and healthy. It is often directed toward also honing ability or skill. It is the main focus of our application because what we have seen in other applications is that they do not have good list of exercise for all type of people who are using it. They do not target large group of audience which was our applications aim.
- **Diet and Nutrition Plan:** A healthy diet plan can help the user to maintain their weight along with all the essential nutrients to keep them fit and healthy.

Diet plan is a schedule that tells; what to eat and when to eat. It is really beneficial when followed strictly.

Our application provides two kinds of dieting plans:

1. Leaning type dieting plan
2. Weight gaining dieting plan

Leaning Type Dieting Plan - It consist of food which is good for losing weight. These food are low in calories and helps in burning fat when followed with regular workout.

Weight Gaining Dieting Plan - It consist of food which is good for gaining weight. Some people are lean by nature and need desired food to help them gain weight and muscles. These foods are rich in protein which plays the main role in muscle gain and also food containing good calories like dry fruits etc. [6]Weight gaining is as tough as losing weight you have to choose your food wisely so that you gain the right weight at the desired places. This plan is the most effective when combined with exercises.

- **Blogs:** A blog(a truncation of the expression “weblog”) is a dialogue or information sharing website mainly have informal text entries on different topics. It is published on the WWW. Putting them goals and intentions out there to the world holds them accountable for all of their actions.[7]Users less likely to skip a workout when their friends, family or work colleagues are watching. Essentially, it’s an extra incentive to stick users plansuper powerful.

Our application has listed top blogs for users which can help in giving them more information related to health.

Body Mass Index or BMI Calculator: It is a value derived from the combination of mass(weight) and height of an individual. [8]The BMI is calculated as the square of the body height, and is universally expressed in units of kg/m^2 resulting from mass in kilograms and height in meters.

Few snapshots of currently developed modules are shown in figure 1, 2 and 3.

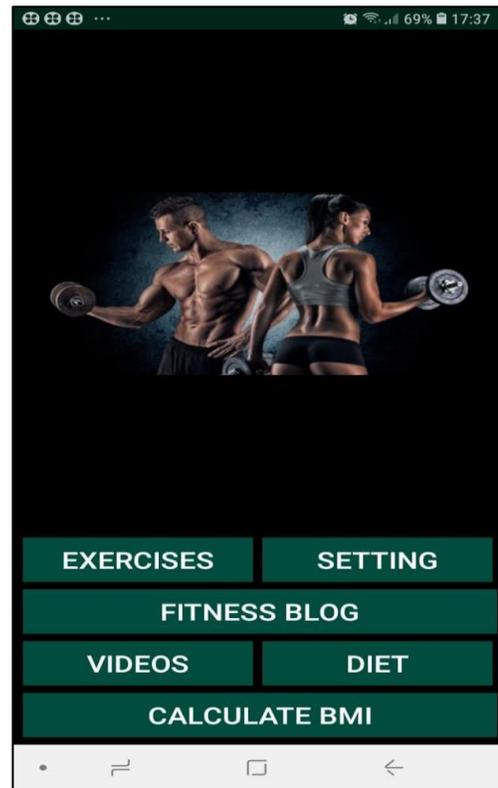


Fig. 1. Main interface of Fitness App



Fig. 2. Depicting Diet plan Module

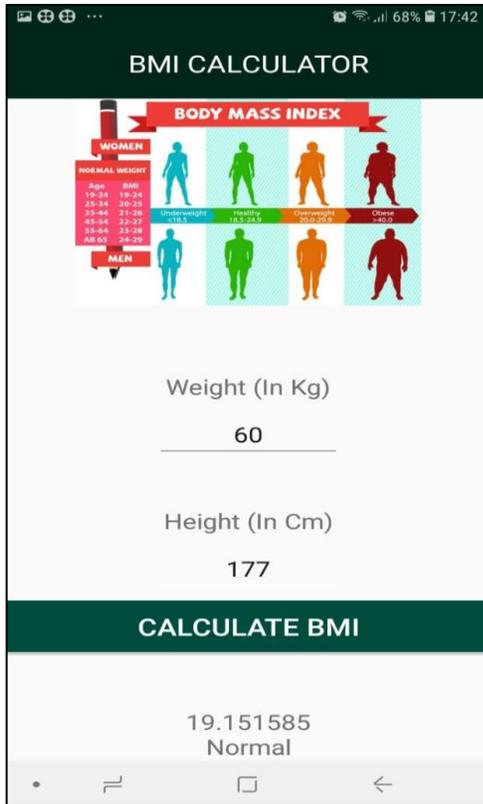


Fig. 3. Representing BMI Calculator Module

5. BENEFITS OF SYSTEM

Anyone can do it: Fitness apps are great for people who want to get a workout on their own time, in their own space. If someone who doesn't have much time in everyday for exercise, opening an app and getting in a 10-minute sweat sesh is ideal for them. By just watching the exercise's or videos user can move and then figure it out on their own. No need to have to deal with others at all.

- **Affordable:** As fitness apps not very costly and can be very easily affordable. Using this doesn't require personal trainers which charges too much from their customers.
- **Different levels of Complexity:** Apps contain the different level of exercises for all types of user viz. beginners to advance levels. This is very beneficial for those just starting out also who scared of going to gym can start these workouts and diet plan at home.
- **It has well-structured GUI:** Sometimes apps can pack too much information into our phones tiny screens. This is definitely something the app will attempt to avoid by being well structured and only having a small portion of information visible at any time.
- **Engaging GUI:** The layout should be simple and make use of concurrent theme with a good colour scheme, in order to grab the attention of users.

- **Operability of the app:** Error messages should explain issues as they occur. The apps response time is instantaneous so that user doesn't lose interest.

6. LIMITATIONS OF THE SYSTEM

- **Impersonal:** As fitness apps was created to target those people who need a quick workout, without having to get a personal trainer. But user don't get the motivation, knowledge, friendship, programming or research that comes with having a personal trainer. A fitness app won't push you to your limits or full potential, that's up to you. Most people don't have what it takes to push themselves far enough to make changes in their body, and that's just what a personal trainer can do for them, in fact, that is our pain purpose.
- **Ineffective:** People lose motivation, drive, and discipline very easily in the fitness industry. This is because we don't always see the results ourselves, or they don't come as fast as we would like. Studies have shown that people working out alone are more likely to just give up after a few days/weeks, whereas people with a trainer or a workout buddy tend to stick with it longer because someone is counting on them. Your discipline has to be bigger than your excuses. After doing the same workout over and over again, it becomes ineffective. This is because the body uses muscle memory move, and when you do the same moves over and over again without progression, you begin to plateau. Workout apps don't use programming or progression; they only have so much content on them that is used over and over again without every changing intensity or duration.
- **Unsafe:** Workout apps can also be very dangerous. This is because user doesn't know if they are doing the movement properly or not. If it is not taken care then doing the movements incorrectly can lead to serious injury. If wrong muscles and angles are repeated for a long period of time it causes harm or situation may become worse for someone.
- **No feature for tracking:** Our application is a simple application which provides all the aspect of training. But in today's time people like to keep track of their daily activity like the amount of movement done by them in a day. This feature is missing in our application which prevents it from being a complete package. We can surely add this feature in next version of our application.
- **Available only for Android users:** The fitness application is built in Android Studio and works only on Android system. We have not made this application available for any other operating system for example IOS. This makes our application not target all the users.

7. CONCLUSION AND FUTURE WORK

The system is made flexible and versatile. This application has a user-friendly screen that enables the user to use the FITNESS

APP without any inconvenience. Validation checks induced have greatly reduced errors in the FITNESS APP. Provisions have been made to upgrade the FITNESS APP. The application has been tested with live user and has provided a successful result. Hence the application has proved to work efficiently.

It can be beneficial for some people, in certain circumstances. But again, it can be totally wrong for someone else. So it is advisable to use it smartly and according to need and requirement. In future many new modules can be added to this app viz. for counting and tracking number of movements, yoga steps to add, integration with wearable devices etc. Survey and feedback form will be added for taking the views and recommendations for app.

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Cloud Computing Adoption & Implementation: Challenges and Possibilities in Developing Countries

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Abstract: *Cloud Computing is an innovative technology that transforms businesses all over the world and help in so many developmental strides in the Enterprise Information Technology in Developed countries. Users and enterprises are gradually changing the way and manner in which data and information are been stored, the processes of storing/retrieving data and information traditionally using standalone Computers programs are no longer sustainable due to high cost of peripheral devices. Therefore, enterprise and users are now considering migrating and adopting the Cloud computing technology since it serves as a major driver in consumer-oriented business because of its ease of use, availability, scalability and other functions of delivering computing services – server, storage, databases, networking, software and more. But many enterprises are little more cautious in its adoption due to security challenges related to it, which causes law adoption and implementation. This paper investigates and reviews the challenges (i.e. reasons for low implementation) and possibilities of cloud computing adoption in Developing Countries. The paper is a review research to explore some of the reasons for low adoption of cloud computing technology in developing countries; it further addresses the possibilities of overcoming these challenges with recommendations on improving the level of adopting & implementation cloud computing technology in the Developing Countries.*

Keywords: *Cloud Computing, Virtualization, Adoption, Challenges and Possibilities, developing countries.*

1. INTRODUCTION

Cloud computing sets the giant stride for a new era of computing globally [1]. Cloud computing actually changes the way and manner applications are developed and maintain as well as the processes in which infrastructure are run by users. Cloud computing, also known as on-demand computing, is a kind of internet-based computing, where shared resources and information are provided to computers and other devices on-demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources [2]. Cloud computing and storage solutions provide users and

enterprises with various capabilities to store and process their data in third-party data centers. It relies on sharing of resources to achieve coherence and economies of scale, similar to a utility (like the electricity grid) over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services. The “Cloud” in simpler term also focuses on maximizing the effectiveness of the shared resources. Cloud resources are usually not only shared by multiple users but are also dynamically reallocated per demand; this can work for allocating resources to users. This approach helps maximize the use of computing power while reducing the overall cost of resources by using less power, air conditioning, rack space, etc. to maintain the system. With cloud computing, multiple users can access a single server to retrieve and update their data without purchasing licenses for different applications. Cloud Computing permits the usage of information technology on the basis of effective functionalities on-demand by users. The cloud technology offers lots of possibilities to businesses and organization having an inadequate capital, lack of human resources, and also lack access to marketing network.

The rapid development of cloud technology indicates certainly non reduction in terms of adoption and frequent utilization from different sectors by developing countries like India, Singapore, America and others. According to 2016 BSA Global Cloud Computing Scorecard, estimates that by 2019 global market will exceed US\$130 billion, The Scorecard positions the “IT infrastructure and policy environment — or cloud computing readiness — of 24 countries that account for 80 per cent of the world’s IT markets”, that Cloud computing as a current IT invention, has further supplement innovative measurement to that significance by increasing access to technology that pushes for economic growth generally at all levels.

But upon all these underlying possibilities the cloud technology brought into businesses in developing countries a lot of challenges were faced that results to low implementation and will be discussed and recommend ways so as to improve the level of implementing the technology.

2. LITERATURE REVIEW

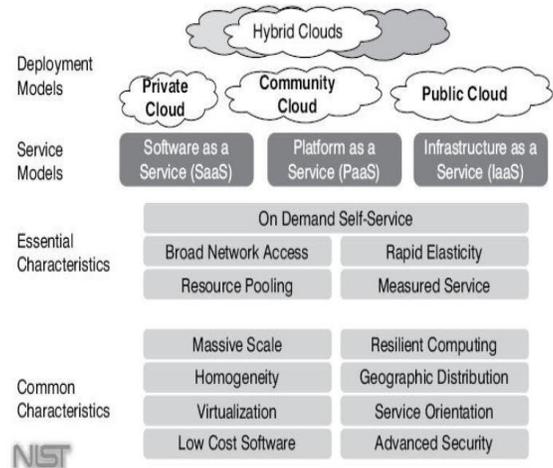
Cloud computing evolved from several technologies and business approaches that emerged over the years [3] the basic concept of Cloud Computing is separating the application from the operating system as well as the hardware its self. This processes of separation brought about the underlying technology of cloud computing called Virtualization. Virtualization plays a vital role in cloud computing processes [4]. It is a method of installing and organizing computing resources. It separates the different levels of the application system comprising the hardware, software, data, networking, storage etc. It also breakdowns the division between the data centre, servers, storage, networking, data and the physical devices, by recognizing dynamic architecture, then attains the goals of organizing centralized and making use of dynamically the physical resources and virtual resources, improving the flexibility of the system, reducing the cost, improving the service and decreasing the risk of management. Cloud computing adoptions generally are attractive in planning businesses for more profitability, success and cost management. Most developing Countries are not an exception their role in the service provision sector thereby making some giant strides and increasing their efforts to create more awareness and contribute substantially in helping companies migrate to the cloud [1] emphasized that the cloud technology saves costs for servers and storage, offers speed in processes and streamlines application deployment without upfront capital, that is why many organizations are now considering adoption of cloud computing to provide more efficient and cost effective network services while other are afraid of the challenges. For those countries to overcome the challenges that lead to low adoption some obstacles need to be addressed.

However, it is no coincidence that business executives in developing countries have developed a limitless desire for technology in order to drive and transform their businesses. [5] Business and technology are inseparable that makes it difficult to determine which one can work without one where profit maximization (revenue increase / cost reduction) is an essential performance indicator upon which business successes are measured.

3. CLOUD COMPUTING CONCEPT

According to National Institute for Standards and Technology (NIST) [6] - Cloud Computing is a model that enables convenient on-demand network access to a shared pool of configurable computing resources like (network, server, storage, applications and services) that can be rapidly provisioned and released with minimal management effort of service provider interaction. Typical Example of Cloud Computing Technologies are: Google Search, Web based Email (electronic mail, be it Gmail, yahoo mail), Google Documents (create Doc, Spread sheet, presentation and edit online) and others. Cloud computing can be access in various ways Public, Private, Community and hybrids models,

available in services like *Software as a Service (SaaS)*, *Platform as a Service (PaaS)* and *Infrastructure as a Service (IaaS)* [6].



Cloud Computing Concept [6].

Different Models of cloud computing have various ways of exposing their underlying infrastructure to the user. This influences the degree of direct control over the management of the computing infrastructure and the distribution of responsibilities for managing its security.

- **Software as a Service (SaaS)** most of the responsibility for security management lies with the cloud providers, SaaS provides a number of ways to control access to the Web Portal, like the management of user identities, application level configuration, and the ability to restrict access to specific IP address ranges or geographies.
- **Platform as a Service (PaaS)** allow users to assume more responsibilities for managing the configuration and security for the middleware, database software, and application runtime environments.
- **Infrastructure as a Service (IaaS)** allow for more control, and responsibility for security, from the cloud provider to the users. This service model, access is available to the operating system that supports virtual images, networking, and storage.

4. CLOUD COMPUTING ADOPTION

Cloud Adoption is the procedure of partly or fully deploying an organization's digital assets, services, IT resources or applications to the cloud, [7]. The migrated assets are easily reached at the cloud's firewall. Cloud migration is sometimes refers to as Business Process Outsourcing (BPO), which may possibly involve transferring a total organizational infrastructure, where computing, storage, software and platform services are moved to the cloud for ease of access. Cloud computing is accepted to several organizations because to its scalability, ease of management and little costs

expenditure. Cloud migration enables the implementation of flexible cloud computing.

An organization's cloud migration procedure sometimes comprises merging an on-site IT infrastructure through a hybrid cloud solution, which may be retrieved through the Internet for a specific charge. Hybrid cloud solutions move among one or many cloud service providers and commonly offer on-demand and provisioned server space, applications and services.

Cloud migration/adoption is significant for attaining real-time, up to date performance and efficiency. As a result, cloud migration needs thoughtful exploration, planning and execution to guarantee the cloud solution's compatibility through organizational requirements.

The term "moving to cloud" also refers to an organization moving away from a traditional Capital Expenditure (CAPEX) model (buy the dedicated hardware and depreciate it over a period of time) to the Operational Expenditure (OPEX) model (use a shared cloud infrastructure and pay as one uses it). Proponents claim that cloud computing allows companies to avoid upfront infrastructure costs, and focus on projects that differentiate their businesses instead of on infrastructure. Proponents also claim that cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and enables IT to more rapidly adjust resources to meet fluctuating and unpredictable business demand.

Cloud Security Challenge: The Main Reason for Low Cloud Adoption in Developing Countries

In addition to the usual challenges of developing secure IT systems, cloud computing presents an added level of risk because important services are regularly outsourced to a third party (Cloud Service Provider) [8]. The externalized aspect of outsourcing makes it difficult to maintain data integrity and privacy, support data and service availability, and demonstrate compliance. In effect, cloud computing shifts much of the control over data and operations from the client organization to their cloud providers. Even basic tasks, such as applying patches and configuring firewalls, can become the responsibility of the cloud service provider, not the user.

There are several other challenges or reasons for low cloud adoption, all of which state to the challenges that any major paradigm shifts or new adoption can run in to [9]. The major issues that will need to be addressed to in order facilitate the adoption and their possibilities are as follows:

- a) Difficulty in moving/migrating existing workloads to a Cloud. Although, new tools and techniques are already in place that addresses the issues of cloud migration.
- b) Expensive Equipment that comprises the Hardware and software are expensive to users. Therefore, making it difficult for smaller enterprises with little capital to adopt, cheaper equipment is needed to address the issue.

- c) The service providers' high expectations in revenue generation as a business to their legacies which make several businesses fear the exorbitant prices resulting to low or no implementation at all, should devise means of generating revenue and make Services affordable.
- d) Security concerns about the Cloud, generally the security aspect need to be improved so as to increase adoption.

Even though, there are some general discomfort regarding migrations and adopting Cloud, these discomforts will begin to change once the benefits and or possibilities of the Cloud are taken into consideration. Cloud storage is the future of many businesses and Information Technology in general, and with enterprises producing new tools and techniques to streamline both the migration process and the Cloud experience, adoption should begin to intensely increase in the near future.

Apart from the reasons highlighted for low cloud computing adoption in developing countries, some challenges are discussed by many scholars but [2] added that technical challenges like availability of service and data lock-in, lack of scalable storage, performance unpredictability and data transfer bottlenecks are also challenges that could limit the growth of cloud computing adoption in developing countries. Moreover, he emphasized that Poor quality of internet service can hinder prompt availability of data, Fear of hackers, Privacy Issues, Lack of technical skills in the deployment of cloud computing services, Lack of flexibility of the policy or legal framework for cloud computing is discouraging a number of companies to adopt cloud computing, ignorance of the cloud computing technologies, lack of ICT infrastructures and social amenities needed to establish cloud computing data centers across the country and Insecurity problem that hinders cloud technologies providers from investing in most developing countries among many other challenges.

Cloud Computing Possibilities in Developing Countries

Cloud computing is a quite flexible technology approach, cost-effective, and proven delivery platform for providing business or consumer IT services over the Internet [10]. Cloud resources can be rapidly deployed and easily scaled, with all processes, applications, and services provisioned on demand, regardless of the user location or device. As a result, cloud computing gives organizations the opportunity to increase their service delivery efficiencies, streamline IT management, and better align IT services with dynamic business requirements. In many ways, cloud computing provides solid support for core business functions with the capacity to develop new and innovative services in businesses.

Countries like India, Singapore, and America who are developed already now based their whole multi-billion dollar business models on putting information on the internet, and storing the data in the cloud. Cloud computing offers worldwide access to virtually unlimited processing power, new storage capabilities and much more but left countries like Nigeria which is among the underdeveloped or developing

nation from possibly attaining these possibilities and boasting business opportunities like measuring of used resources for smaller companies that is payment based model (Pay per use), cost reduction, easing of Information Technology complexities and increasing the accessibility of update technology.

5. RESEARCH METHODOLOGY

This research paper depends mainly on intuitive data and reviews which are derived from previous literal works done on the research paper topic obtainable from textbooks, journals, newspapers and from the internet resources. In order to investigate and examine some of the challenges that lead to low adoption or implementation of cloud computing in developing countries.

6. CONCLUSION

In conclusion, we discussed how developed countries are using cloud computing to achieve scalability, agility, automation, and resource sharing. Cloud computing can provide an efficient, scalable, and cost-effective way for business in most developing countries if fully adopted and implemented. A variety of different cloud computing services models are available, providing solid supports for core business functions and the flexibility to deliver new services. However, the flexibility and openness of cloud computing models have created a security challenges that hinders or result to low adoption in those countries. IT resources are shared among many users, and security processes are often hidden behind layers of abstraction and services are provided online so control over data and operations is shifted to the service providers.

In this paper, we presented and examine various challenges that lead to low adoption and as well possibilities of cloud adoption in developing countries. The major issues that need to be addressed in order facilitate the adoption and their possibilities are discussed by given some guidelines for the implementation and adoption of cloud computing. We further recommend that the Ministry of Science, Technology and Communication in Nigeria should set up a committee and find out ways on how to improve the cloud computing adoption in developing countries, taking into consideration the challenges that cause low implementation of the cloud computing technology.

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Physical Fitness using Modern Science and Ayurvedic Shastra

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Abstract: *Rapid Industrialization, urbanization and mechanized transport have reduced the physical activity of humans. Currently, more than 60% of the global population is not sufficiently physically active. The aim of this work is to design a mobile and web-based application covering physical fitness using modern science and ayurvedic shastra. The application will help in maintaining a better lifestyle for those who have no time for the gym. People can get better health tips and the users can prioritize their fitness goals and accordingly plan their workout session. Even at an older age, physical exercise is linked to longevity. Physical activity can significantly reduce the risk of coronary heart disease, diabetes, high blood pressure, and obesity, help reduce stress, anxiety and depression, and improve lipid profile.*

Keywords: *Ayurvedic Shastra, Physical inactivity, Fitness, Diet plan.*

1. INTRODUCTION

India is a country with a centuries-old heritage of medical science and health sciences. The approach of the ancient Indian medical system was one of the holistic treatments. The history of healthcare in India can be traced to the Vedic times (5000 BC) but today 62 million Indians, which is more than 7.1% of the adult population have diabetes. Nearly 1 million Indians die due to diabetes every year. 2.5 million Indian people have cancer and every year, 700, 000 new cancer patients get registered. These diseases can easily be prevented if a person follows a healthy diet, lifestyle and workout routine. On an average, an Indian person is having a complex lifestyle as compared to previous centuries. People are unable to give time to fitness and health due to their busy schedule. The objective of the proposed application is to prepare time-efficiently workout and diet plan while saving time and cost.

Ayurveda basically means “Knowledge (Veda)” of “Life (Ayur)”. Ayurveda is an ancient system of personalized medicine documented and practiced in India since 1500 B.C. [1]. Today, Ayurveda not only plays a key role in Asian health care systems but is also increasingly recognized

in the European and North American model [2]. Over the last decade, major efforts have been initiated in India to establish the molecular correlation with specific “Prakriti”. Ayurveda is related to finding the root of the disease and later totally eradicate the disease from the body. It goes for searching the origin of the disease and after that, it cures the disease. Ayurveda helps in reducing body weight by following a natural and healthy diet. On the other hand, in allopathic treatment, the disease isn’t cured permanently every time and it gives just instant relief to the patients by destroying the disease-causing organism. The present work aims to design a physical fitness application based on modern science and Ayurveda science for mobile and web-based user.

The remaining sections present related work followed by data collection, data analysis and implementation and concluded in the last.

2. RELATED WORK

To maintain the health for today’s generation is an active area of research because of the fast-moving lifestyle nowadays. As compared to mental fitness, physical fitness is also essential as said by various researchers in the literature. There are several scientific reports that reveal the beneficial effects of yoga or physical activity towards the improvement of lipid metabolism, as well as, reduction in obesity [3, 4]. Several studies with lifestyle intervention such as yoga, exercise etc. reveal beneficial improvements towards healthy lifestyle [5].

3. DATA COLLECTION

A survey was conducted on over 100 college students that include various health and food aspects, like individual’s age, weight, height, amount of vegetables and fruit intake including unhealthy food items, water consumption, daily and weekly physical activities. In the present work, the data is collected and sorted according to different age group. The data is gathered according to their daily workout routine, fruits intake, water consumptions, unhealthy food intake and vegetable intake. Conclusion of the survey:

Vegetable intake:

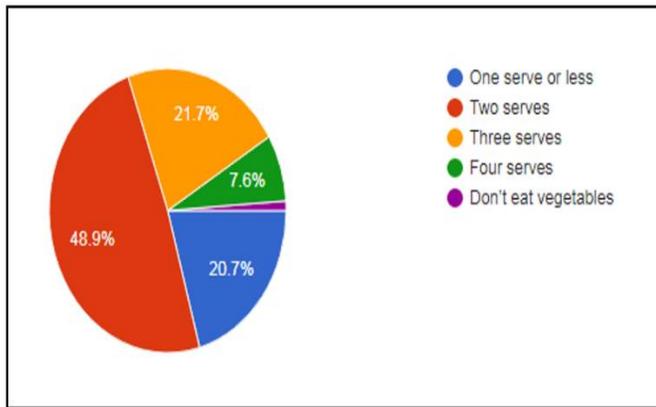


Fig. 1: Survey of students reporting vegetable intake of <1, =2, =3, =4 serve per day and those who don't eat vegetables.

Fruits intake: (number of days in a week):

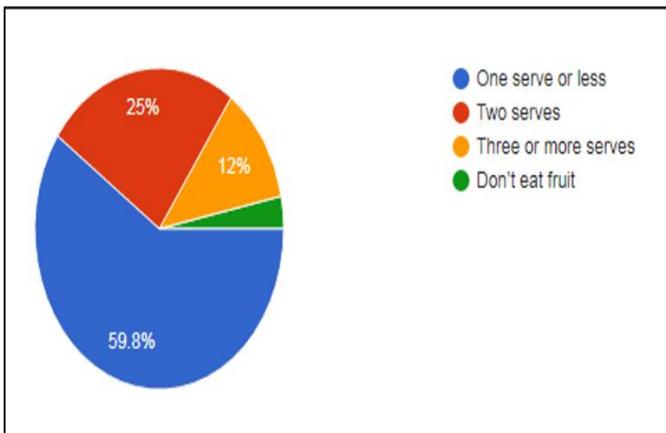


Fig. 2: Survey of students reporting fruit intake of <1, =2, =3, =4 serve per day and those who don't eat fruit.

Unhealthy food intake:

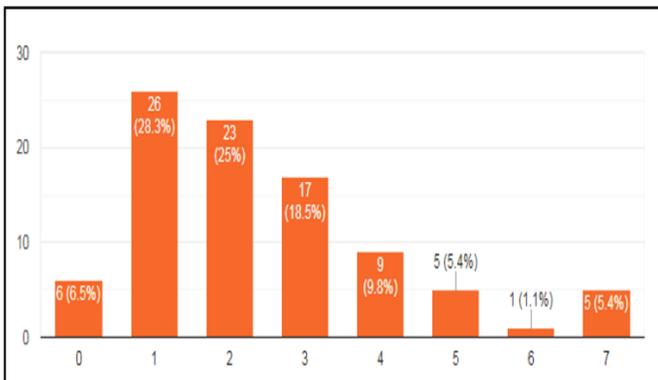


Fig. 3: Survey of students having unhealthy intake (serve per day)

Water consumption: (number of glasses (250 ml) per day)

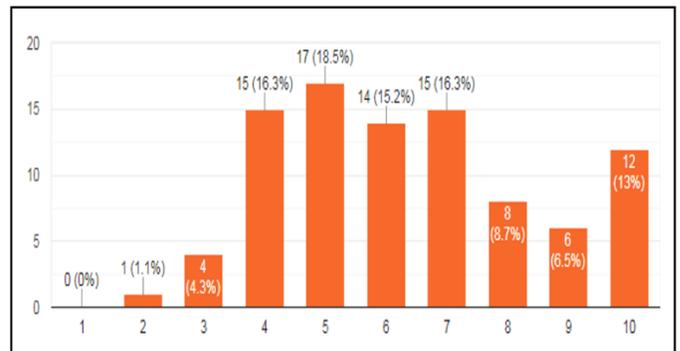


Fig.4: Survey of water consumption (number of glass per day) of 100 students.

Workout session: (number of hours in a week)

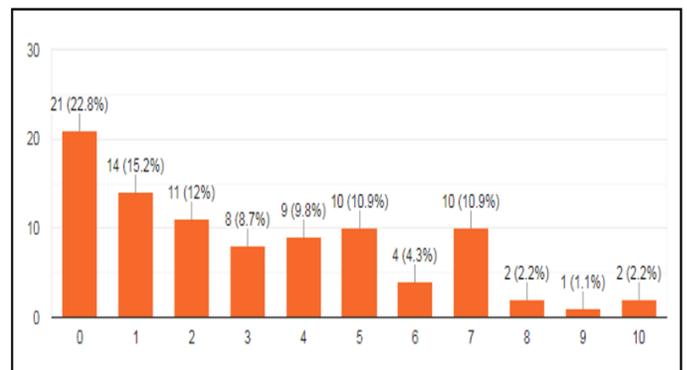


Fig. 5: Survey of workout session (number of hours in a week) of 100 students

The survey conducted on 100 college students is plotted and represented graphically for better understanding. The following section describes the findings and accordingly necessary steps are considered while developing the proposed application.

4. DATA ANALYSIS AND IMPLEMENTATION

This section clearly provides the key areas (analyzed from the data collected in the previous section) where we need to focus while developing our application on physical fitness.

From Figure 1 and Figure 2, it has been observed that the vegetable and fruit intake is poor among students. Therefore, our application covers the importance of vegetable and fruits in our daily diet by first explaining the benefits of eating them. Studies and research have been done with the help of modern science and Ayurveda rules and regulation for better health and fitness. Therefore, the proposed physical fitness application covers the following details:

Fruits and vegetables contain essential vitamins, minerals, and fiber that contribute to overall good health. They may even help prevent chronic diseases. Those who eat more fruits and

vegetables as part of a healthy diet, are likely to have a reduced risk of chronic diseases, including stroke and other cardiovascular diseases, as well as certain cancers, compared to those who consume a diet with few fruits and vegetables.

How veggies can protect your health?

- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce the risk for stroke and perhaps other cardiovascular diseases.
- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may protect against certain cancers, such as mouth, stomach, and colon-rectum cancer.
- Diets rich in fibre such as fruits and vegetables may reduce the risk of coronary heart disease.
- Eating foods such as vegetables that are low in calories instead of some other less nutritious higher-calorie foods may be useful in helping to lower overall calorie intake.
- Vitamin A keeps eyes and skin healthy and helps to protect against infections.
- Vitamin C helps heal cuts and wounds and keep teeth and gums healthy. Vitamin C also aids in iron absorption.

Millions of Indian are simply physical inactive and fails to meet the minimum threshold for good health i.e. burning at least 700 to 1, 000 calories a week through physical exercise and can be observed from Figure 3, Figure 4 and Figure 5 also [6]. The benefits of exercise may sound too good to be true, but decades of solid science confirm that exercise improves health and can extend your life. Adding as little as half an hour of moderately intense physical activity to your day can help you avoid a host of serious ailments, including heart disease, diabetes, depression, and several types of cancer, particularly breast and colon cancers. Regular exercise can also help you sleep better, reduce stress, control your weight, brighten your mood and sharpen your mental functioning.

Therefore, the proposed application also covers a well-rounded exercise program which has four components: aerobic activity, strength training, flexibility training, and balance exercises. Each of the above four component benefits your body in a different way. The application also includes questions. The beginners while starting their fitness journey, have many question in their mind such as:-

- What should I eat?
- I'm a vegetarian can I build muscle?
- What kind of workout should I follow?
- How often should I go for a workout?
- What if I've never worked out in a gym before?
- Am I doing my workout right?

Answers of these queries are different from person to person. Our smart assistant (physical fitness application) is designed to incorporate all important queries. The application can design a perfect work-out plan and diet plan uniquely for the individual user. The application is designed to focus on important key points which are not covered in the survey. They are:

- How to achieve hormone balance?
- Importance of saliva
- Avoid drinking water just before/after a meal

The detail description has been presented as follows:

A. Hormonal balance

Ayurveda can balance hormones naturally, resulting in a healthy menstrual cycle/pregnancy. In 2010, a study done by the Institute of Indigenous Medicine at the University of Colombo in Sri-Lanka found that using essential oils can help with balancing hormones. Ayurveda prescribes natural formations and various therapeutic properties to help with all ill effects of hormonal imbalance.

B. Importance of saliva

Produced in salivary glands, saliva is 98% water, but it contains many important substances, including electrolytes, mucus, antibacterial compounds and various enzymes. The digestive functions of saliva include moistening food, and helping to create a food bolus, so it can be swallowed easily.

Saliva contains the enzyme amylase that breaks some starches down into maltose and dextrin. Thus, digestion of food starts even in the mouth while chewing, even before the food reaches the stomach.

C. Avoid drinking water just before/after a meal

When you drink water before eating food, it weakens Agni i.e. the digestion strength. Since water is a coolant, it dilutes the gastric juice, and this is directly opposite to the digestive strength of the body. Hence, Ayurveda firmly believes that you must not drink water a few hours before having your meals. It is also said that drinking water before meals causes weakness and emaciation as well.

Now, when you drink water immediately after having your food, it directly affects the quality of the food plus the digestive strength of the body. Whatever food you eat, drinking water adds a coolant effect to it, and the chances are that you might become obese if you follow the practice regularly. Thus, Ayurveda does not support the practice of drinking water just after a meal.

The proposed application is purely goal-oriented. The user can set their desired goal and time period to achieve them [8]. With the help of smart assistance, an individual can track their nutrition and fitness goal on a daily basis by inputting some basic information about their lifestyle. As a working-class

person has such a busy life, they cannot look after their health so properly; they are unable to give their time to fitness and health. This smart assistant will remind/motivate/inform them about their routine, and it can be scheduled according to individual's convenience. The application also maintains a data set which can help an individual to analyse their past workout, food intake etc. and accordingly can alter their future workout plan to get more benefits. The proposed application can provide perfect suggestions, specifically, considering their age, eating habits and body type/structure.

The application uses Ayurveda remedies and Ayurvedic Shastra for providing suggestions. Ayurveda is being used in India from an ancient time. The whole world is moving towards naturopathy and yoga for curing their chronic diseases considering a low-cost treatment and medication. The idea of using Ayurveda in this application is not to start Ayurveda medication in daily routine but to design a diet plan according to Ayurvedic Shasta so that diet itself acts as medication on its own.

5. CONCLUSION

The physical fitness application based on modern health science and Ayurvedic Shastahas been presented in this paper. The application is designed after analyzing the findings observed from the survey conducted on 100 college students. The application is designed in such a way that an individual can learn the basics of dieting and exercise with a smart assistant. Smart assistant feature of the proposed application is designed by considering health tips from modern

health science and Ayurvedic Shasta. The application is very user-friendly and provides workout and diet routine strictly based on user's current lifestyle and activities.

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College Event Management System: A step towards Quality Assurance

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Abstract: “College Event Management System” is an interactive web platform to display for upcoming and past events in the college. It provides a clutter free viewing experience to our college students and gives them direct links to the registration websites. In MSI almost every weekend lots of events and activities are organized by various departments and societies. Information for the new events is send through E-Mail to the administrator in a specified format or added via a form for including in the database. Users can access the system and know the details of the events along with event report and participant feedback on the system. They would even get proper notification related to the event a day before if clicked on the “Click here to get Notification” link. Python, Django, SQLite, HTML and CSS are used for the project development. Entire source code (except the database file) is hosted on GitHub (under the repository name: lakshaygarg1701/MPRF). Django, HTML and CSS are used for the Front End Development of the project, Inbuilt Python functions combined with SQLite is used for database handling. The Web app overcomes the limitations of promotional emails from the organizers being deleted or the possibility of not being read on time. So we have developed this web application to deliver the data with finesse and ease.

Keywords: Python, Django, SQLite, HTML, CSS, Cron and GitHub

1. INTRODUCTION

Efforts towards achieving Quality Assurance (QA) has become the important requirement for educational institutes. Quality assurance plays a major role in providing improvement in all the events and activities of the organization. Therefore, we have implemented College Event Management System to manage the quality standards through Digitizing the Event Management System in College. “College Event Management System” is a web-based[1-3] application which is used to provide easy access to students and faculty members of our college in terms of the details about the upcoming and past events in college in a well-defined manner. An official or unofficial group of a college batch or a class of 50+ students, receives on an average 20-25 emails in a week whether it is from college faculty or auto-mailing list, which are sometimes

ignored by the students. Most of the times, students don't go to an event as they don't know about it. Normally the Students and Faculty Members search for the messages related to events from hundreds of Email and then get to know about the event which becomes time consuming and hectic.

Events keep on happening in the college but most of the students and teachers complain of not being aware about the events. This makes them lose out on some major events as well. This happens because many of the event related messages get lost among the innumerable emails. It's true that one can start the emails to save them but at times people forget to do that and hence lose out on the important events and miss out on opportunities that can at times become a life changing event as well. This makes them lose out on some major events as well. This happens because many of the event related messages get lost among the innumerable texts in a WhatsApp group. The system helps to tackle these issues. This system creates a proper login id for members through which they can access the system and know the details of the events. The web App also view event wise reports and participant feedback. Proper notification will be received by the user related to the event a day before if clicked on the “Click here to get Notification” link and signing up while checking out the details about the event. College Event management system will implement event details, members handling details, separate login details.

OBJECTIVE

The Web App provides the solutions for the issues faced by the Student Organizers of various events. College-Event Management System” is a web-based application which is used to provide easy access to students and faculty members of Maharaja Surajmal Institute in terms of knowing about the events happening or has happened in the college. The applications has been made considering the following Objectives:

1. Digitize the Event Management to avoid delay and wastage of money
2. Provide all event details at one place including date, venue and poster of event.
3. Keep the user interface simple so maximum students can use and be benefited.
4. Proper notification in advance related to the event

5. Address the issues regarding bulk mails which are sometimes ignored
6. Increase awareness among students regarding upcoming information.

ORGANIZATION OF THE PAPER

The paper is organized as follows: Section II discusses about the system. Section III explains technological overview of the system. Section IV covers the backend of the system. Section V covers the details of the testing results, Section VI the conclusion and future scope followed by References in Section VII.

2. COLLEGE EVENT MANAGEMENT SYSTEM IN MAHARAJA SURAJMAL INSTITUTE

The system is designed in such a way that only authorized people are allowed to access particular modules. To achieve the stated problem, we have login feature in this Web app and with login it is also specified implicitly which type of user has logged in, on the basis of that access of modules are granted.

The records can only be modified by only administrators and no one else. The user should always be in control of the application and not the vice versa. The user interface should be consistent so that the user can handle the application with ease and speed. The application should be visually, conceptually clear. Event management system has two main modules for different Users:

- Admin View
- Users View

Admin can view:

- 1) Number of users
- 2) Total number of events available

Members can view:

- 1) Number of events being held today.
- 2) Total number of events.
- 3) Past Events
- 4) Organizers can add report via their Login ID
- 5) Other users can add feedback for the events

3. TECHNOLOGICAL OVERVIEW

1. Back End

- **Python**

Python[4-6] is an interpreted high-level programming language for general-purpose programming created by Guido van Rossum and first released in 1991. Python has a design philosophy that emphasizes code readability, notably using significant whitespace. It provides constructs that enable clear programming on both small and large scales. Python features a

dynamic type system and automatic memory management. It supports multiple programming paradigms, including object-oriented, imperative, functional and procedural, and has a large and comprehensive standard library. Even after 15+ years, it is relatively new to the industry

Execution: python Read_Email.py

- **SQLite**

SQLite[7] is an embedded SQL database engine. Unlike most other SQL databases, SQLite does not have a separate server process. SQLite reads and writes directly to ordinary disk files. A complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file. The database file format is cross-platform - you can freely copy a database between 32-bit and 64-bit systems or between big-endian and little-endian architectures. These features make SQLite a popular choice as an Application File Format.

2. Front End

- **Django**

Django[8] is a free and open source web application framework, written in Python. A web framework is a set of components that helps you to develop websites faster and easier. When you're building a website, you always need a similar set of components: a way to handle user authentication (signing up, signing in, signing out), a management panel for your website, forms, a way to upload files, etc. Luckily for you, other people long ago noticed that web developers face similar problems when building a new site, so they teamed up and created frameworks (Django being one of them) that give you ready-made components to use.

Execution: python manage.py runserver

- **HTML**

Hypertext Markup Language [9] (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page.

- **CSS**

Cascading Style Sheets [10-11] (CSS) is a style sheet language used for describing the look and formatting of a document written in a mark-up language. While most often used to change the style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL.

Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging web pages, user interfaces for web applications, and user interfaces for many mobile applications. CSS makes it possible to separate presentation instructions from the HTML content in a separate file or style section of the HTML file. For each matching HTML element, it provides a list of formatting instructions.

3. Operating System

- **Cron**

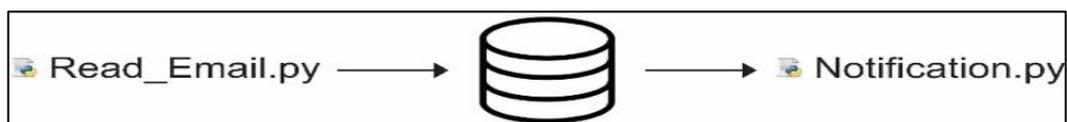
The software utility Cron[8] is a time-based job scheduler in Unix-like computer operating systems. People who set up and maintain software environments use Cron to schedule jobs (commands or shell scripts) to run periodically at fixed times, dates, or intervals. It typically automates system maintenance or administration—though its general-purpose nature makes it useful for things like downloading files from the Internet and downloading email at regular intervals. Cron is most suitable for scheduling repetitive tasks. Scheduling one-time tasks is often more easily accomplished using the associated utility.

4. BACKEND OF THE SYSTEM

For the database, A Cron job (automated python script) i.e. Read_Email.py has been set with the help of the operating system to run at regular intervals to check for new emails from event organizers that would be included in the database. The E-Mail should be in a specified format given by the system administrator for the python file to parse it properly and add it to the database. Another Cron job i.e. Notification.py has been set to check everyday for upcoming events and 1 day before the event, sends a notification email to signed up user for the corresponding event.

For the web app, the user device needs to communicate with the web server to retrieve data and show it on the screen. An HTTP request from the device is sent to the server, and is then converted to specific URLs, which is forwarded to the appropriate view in the views.py file. The view till now acts as a placeholder in which the data coming from Model (or more specifically the database table) is placed and it forms the content to be presented to the user, then comes an HTML file to render/display the data to the user on the screen.

- **Sample E-mail**



- **Back-End Process**

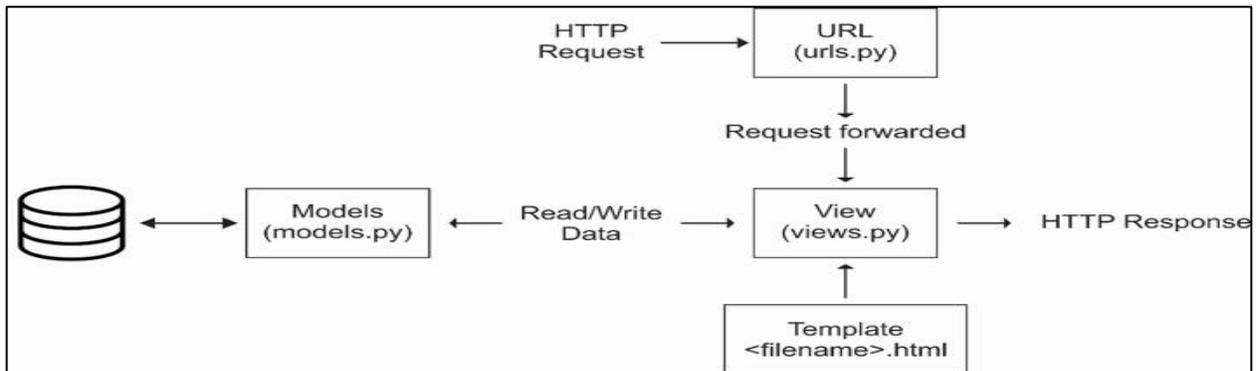
```

Event name: AVENSIS
Event date: 2018-11-24 Today: 2018-11-23
Hi xyz@xyz.com
You have an upcoming event AVENSIS tomorrow

Event name: HACK@MSIT
Event date: 2018-01-10 Today: 2018-11-23

Event name: Quiz-O-Mania
Event date: 2018-02-03 Today: 2018-11-23
    
```

- Notification.py checks for the entries in both the tables where Event IDs are same and sends a mail to all the registered users for those events.



STRUCTURAL DESIGN

The database consists of 3 (three) tables, one for the event details like Event ID, Event Name, Date, Time, Venue, etc. and the second table contains the Event ID, and User Emails, and third one stores the login usernames and the respective passwords for the registered users.

Field	Field Type	SQL Definition
CREATE TABLE "event" ('id1' INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT, 'name' TEXT NOT NULL, 'temail' TEXT, 'femail' TEXT, 'body' TEXT NOT NULL, 'date' datetime NOT NULL, 'venue' TEXT NOT NULL, 'link' BLOB, 'contact' TEXT NOT NULL, 'category' TEXT, 'dept' TEXT, 'img' TEXT, 'added_on' datetime)		
id1	INTEGER	'id1' INTEGER NOT NULL PRIMARY KEY AUTOINCREMENT
name	TEXT	'name' TEXT NOT NULL
temail	TEXT	'temail' TEXT
femail	TEXT	'femail' TEXT
body	TEXT	'body' TEXT NOT NULL
date	datetime	'date' datetime NOT NULL
venue	TEXT	'venue' TEXT NOT NULL
link	BLOB	'link' BLOB
contact	TEXT	'contact' TEXT NOT NULL
category	TEXT	'category' TEXT
dept	TEXT	'dept' TEXT
img	TEXT	'img' TEXT
added_on	datetime	'added_on' datetime

Event Table

Field	Field Type	SQL Definition
CREATE TABLE "event_detail" ('id1' INTEGER NOT NULL, 'email' TEXT NOT NULL)		
id1	INTEGER	'id1' INTEGER NOT NULL
email	TEXT	'email' TEXT NOT NULL

Event Detail Table

Field	SQL Type	SQL Definition
auth_user		CREATE TABLE "auth_user" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "password" varchar (128
id	integer	"id" integer NOT NULL PRIMARY KEY AUTOINCREMENT
password	varchar (128)	"password" varchar (128) NOT NULL
last_login	datetime	"last_login" datetime
is_superuser	bool	"is_superuser" bool NOT NULL
username	varchar (150)	"username" varchar (150) NOT NULL UNIQUE
first_name	varchar (30)	"first_name" varchar (30) NOT NULL
email	varchar (255)	"email" varchar (254) NOT NULL
is_staff	bool	"is_staff" bool NOT NULL
is_active	bool	"is_active" bool NOT NULL
date_joined	datetime	"date_joined" datetime NOT NULL
last_name	varchar (150)	"last_name" varchar (150) NOT NULL

Auth_User Table

5. FRONT-END OF THE SYSTEM

Login Screen

Sign Up Screen



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 Recognised U/s 2(f) of UGC Act

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PUBG

Hey Gamers!

Think you're not getting rewarded for being amazing at PUBG Mobile?

Well no more! Because REKIT - The Gaming Society of MSI brings to you the grand PUBG Mobile Tournament , which will turn your favourite pastime into an opportunity to win certificates and cash prizes!

An intra-college tournament for MSI & MSIT students to show-off your skills and get some Winner Winner Chicken Dinner!
 So, take part & fight your way up to win!

Rules for the Tournament :

1. On the spot - registration available.
2. It would be CLASSIC - TPP - SOLO match-up in the entire tournament. However, the maps (Erangel, Miramar & Sanhok) are going to be set for different rounds.
3. Timings for the event : 10:00 AM to 1:30 PM but make sure you arrive sharp at 10:00 AM for the starting rounds or else you'll miss the fun!
4. Bring your own Headphones/Earphones & Charger for your mobile

Certificates will be provided to the Top 3 players & for the Most Kills!



For more information about this event, contact
 Jaskirat Singh: 9971407820, Vibhu Sharma: 8860563777
 Date: Sept. 22, 2018, 10 a.m.
 Venue: Lab-6,7

[Click to register for the event](#)

[Click here to receive notification](#)

Added on May 8, 2019, 12:43 p.m.

Past event Detail Screen



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 Recognised U/s 2(f) of UGC Act

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Category Department [Filter](#)

Event Name	Date	Venue	Department
HACK@MSIT	Jan. 10, 2018, 10 a.m.	MSIT-06	CS
Man Knows Pop	Jan. 11, 2018, noon	Seminar Hall 206, MSIT Building	CS
Quiz-O-Mania	Feb. 3, 2018, noon	Room 401, MSI Building	CS
BIZMAAVAT	Feb. 17, 2018, 10 a.m.	College Auditorium	CS
CODIFY	Feb. 24, 2018, 9 a.m.	Lab 6, MSI	CS
Chessmate	Sept. 22, 2018, 10 a.m.	Room No- 110,104, 1st Floor, MSI	BBA
CS:GO	Sept. 22, 2018, 10 a.m.	Computer Lab - 06, MSI	B.Com.
PUBG	Sept. 22, 2018, 10 a.m.	Lab 6, 7	CS
PUBG	Sept. 22, 2018, 10 a.m.	Lab-6,7	None
AVENSIS	Dec. 15, 2018, 9 a.m.	MSIT ground	BBA
WhatTheHack	Jan. 9, 2019, 1 p.m.	MSIT	CS
Cooking Without Fire	Jan. 11, 2019, 11 a.m.	Room 4, MSI	B.Ed.

Event List Screen

Maharaja Surajmal Institute

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Hi Lakshay
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HACK@MSIT

Maharaja Surajmal Institute Of Technology
 AVENSIS 2K18
 presents the 2nd Iteration of the Annual Hackathon.

 🔥 HACK@MSIT 🔥

"BUILD TO CHANGE. BE THE CHANGE"
 👤 👤

Hackathons are not about breaking into systems, they are about breaking your limits and building things that shape our future.

Hack@MSIT will not be just a hackathon, but a gathering of like minded people who are passionate about learning and building stuff and sharing it with those around them. With prizes 🏆 to be won and mentors to interact with, you'll get a chance to come up with solutions to various problems in form of an exceptional application!

Show up at the event, forming a team of maximum 3 people and building something cool, and learning a lot !
 P.S. Customary Free Hackathon swag 🎁 and food 🍕 will be provided.

Registration is free. Limited seats available. You'll get a confirmation e-mail once you are selected :)
 Please note that this is not an Overnight Hackathon.

For more information about this event, contact
 Vignesh M: 8800949541, Ankit Kumar: 8743957756
 Date: Jan. 10, 2018, 10 a.m.
 Venue: MSIT-06

[Click to register for the event](#) [Click here to receive notification](#)

Added on Nov. 20, 2018, 11:52 a.m.

Event Detail Screen



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6. CONCLUSION AND FUTURE SCOPE

College Event Management System is a Web Application that helps in finding the information related to upcoming events in the college in a well-defined manner. It is a system which overcomes the limitations of the existing approach by providing important information on a platform in a well-organized manner with notification system than having to search for event related messages on WhatsApp groups or checking out the notice board of college every single time and hence promoting digitization as well. Proper login id would be created for every member of college by signing up. From there they can check out the news related to events and even get notification for the same a day before thus removing the problem of cluttered Emails. Currently the system is implemented for the students of our college to give information about the intra college events (inside the college), the system can also be implemented to give details to the students about the inter college events (outside the college). A Mobile App can be developed for the same.

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Significance of ICT in Quality Education

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Abstract: *ICT initiatives by the government of India such as NROER are key players in assuring and ensuring quality education in Higher Education. This is in keeping with the global demand of technology integration in all aspects and levels of education. To further the goal of quality education, a number of ICT tools such as AI, GBL and Robotics are available that have immense possibilities to tap the potential of these tools to meet the demands of Higher Education. To add to these, Immersive Technologies have changed the face of learning forever and for better. The result of these is a transition of traditional classrooms to Flipped classrooms and Blended Learning. This paper seeks to throw light on these aspects of ICT in order to understand the significant role they can play to facilitate quality higher education.*

Keywords: *Quality Education, Higher Education, ICT Tools, Flipped Classrooms, Blended Learning*

Quality education is globally a top priority in Higher Education. Technology integration ensures meaningful and long lasting learning experiences. MHRD's Committee for drafting the New Education Policy (NEP) named 'Committee for Evolution of the New Education Policy' identified ICT as a major thrust area to enable the access to quality, inclusive, affordable and meaningful education to children and the people across the length and breadth of the country.

The latest initiatives in this regard include NROER, e-Pathshala, Shaala Sidhhi, Saransh, Shala Darapan, GIS Mapping etc. Besides, as initiatives for promoting quality in higher education, ICT based platforms for e-education such as SWAYAM, National Digital Library, National Knowledge Network, IMPRINT India, Vidya Lakshmi Portal are operational.

Indian Government Initiatives

National Mission on Education through Information and Communication Technology (MNEICT)

Department of Higher Education, Ministry of Human Resource Development has introduced 'National Mission on Education through Information and Communication Technology' (NMEICT) Scheme to leverage potential of ICT, in providing high quality personalized and interactive knowledge modules over the internet/ intranet for all the learners in Higher Education Institutions in anytime any where mode. Two main components of the mission are content generation and dissemination. The mission intends to bridge the digital-divide.

It plans to focus on appropriate pedagogy for e-learning, providing facility of performing experiments through virtual laboratories, on-line testing and certification, on-line availability of teachers to guide and mentor learners and launch of 50 Direct to Home (DTH) educational Channels on 24X7 basis for delivery of almost all courses.

SAKSHAT portal (www.sakshat.ac.in) is started as the delivery platform (under NMEICT) to facilitate lifelong learning of the students and teachers, free of cost. NMEICT (Annual Report 2015-16) has undertaken following projects:

i) Campus Connectivity

Campus connect has a provision of 1 GBPS Connectivity to universities and 10 Mbps broadband connectivity to colleges. A total of 438 Universities have been connected through 1 Gbps Optical Fiber; 22026 Colleges have so far been connected with 10 Mbps bandwidth as per the Annual Report, MHRD 2015-16.

ii) E-content

National Program on Technology Enabled Learning NPTEL (<http://nptel.ac.in>) is flagship program of NMEICT for e-content generation for various online courses it has started. This e-content is being repurposed to cater to MOOCs. The web and video based programs of NPTEL are available on YouTube and with more than 250 million hits, it has adjoined as the most viewed educational channel on YouTube.

iii) Integrated e-content Portal

The INFLIBNET Centre has developed a web-based portal called "e-Acharya: Integrated e-Content Portal" (<http://eacharya.inflibnet.ac.in>) for all e-content projects, developed / funded under the National Mission of Education through ICT. There are more than 50 projects on e-content under NME-ICT which are developed / being developed in various subject disciplines (science, arts, engineering, social science, etc) through various Indian institutes / universities / colleges. (MHRD Annual Report, 2015-16)

iv) SWAYAM

Indian MOOCs Platform (SWAYAM), a standalone Platform to run MOOCs on NIC Cloud Platform/Data Centre, is running a number of interoperable courses

concurrently with provision of concurrent access to one million students and lifelong learners over time.

v) **National Digital Library (NDL)**

NDL is a national repository of existing e-content available across educational institutions in the country and e-content developed under NMEICT. National Digital Library hosts the e-contents that can be searched and accessed in the full-text by users through a single window. NDL gives the users links of respective content hosting sites as part of search results.

vi) **Talk to a Teacher**

Talk to a Teacher is developed by IIT Bombay to provide free access to a few selected graduate and postgraduate courses (in engineering and computer science disciplines, the program also covers Humanities & Social Sciences discipline), taught at IIT Bombay by distinguished faculty members and scholars at large. These courses can be viewed absolutely free of charge at lower bandwidths on a personal computer/ laptop having a headphone and Internet connection.

vii) **Ask a Question**

Ask a Question is a unique platform through which students from science and engineering colleges all over India can ask questions and faculty from IIT Bombay answers them.

viii) **Virtual Labs**

Web enabled experiments can be designed for remote operation and viewing so as to enthuse the curiosity and innovation into students. Over 205 virtual labs in 9 Engineering & Science disciplines, comprising about 1515 experiments are operational and currently being accessed by more than 6 lakh students.

ix) **E-Yantra**

An MHRD initiative under NMEICT Programme, named "e-Yantra" is implemented to incorporate Robotics into engineering education with the objective of engaging students through exciting hands-on application of mathematics, computer science, and engineering principles.

x) **E-Kalpa**

"e-Kalpa" is creating Digital-Learning Environment for Design in India. As on December 2015, the content of e-Kalpa website named "D'source" includes 160 Courses on Design Learning in different domains, more than 400 Resources in the form of fine examples of Design and crafts, 110 Case studies of Design Projects undertaken by professionals and design students, 50 Video lectures and presentations by subjects experts and 600 examples of a visual Gallery.

xi) **The Free and Open Source Software for Education (FOSSEE)**

FOSSEE project sanctioned to IIT Bombay has been promoting use of open source software in educational institutions ([http:// fossee.in](http://fossee.in)). FOSSEE is promoting the well established open source software: OpenFOAM, an alternative to the proprietary software Fluent for computational fluid dynamics; DWSIM, an alternative to the proprietary software Aspen Plus, for chemical process simulation. FOSSEE has also undertaken several new open source software activities as well: raising Scilab toolboxes to that of Matlab; development of eSim, an electronic design automation software, an alternative to ORCAD; development of Sandhi, a software for data acquisition and control, an alternative to LabVIEW.

xii) **Vidwan**

The objectives of VIDWAN is to i) collect academic and research profiles of scientists, faculty and research scientists; ii) provide information about experts to peers, prospective collaborators, funding agencies, policy makers and research scholars in the country; iii) establish communication directly with the experts; iv) identify peer reviewers for review of articles and research proposals; and v) create information exchanges and networking opportunities among scientist.

xiii) **E-Shodh Sindhu of INFLIBNET Centre**

E-Shodh Sindhu is a consortium of:

1. UGC-INFONET Digital Library Consortium
2. INDEST-AICTE Consortium
3. NLIST Programme

e-Shodh Sindhu subscribes to more than 12, 000 e-journals, 12 bibliographic and 6 factual databases from 42 publishers and aggregators.

ICT has immense potential to enrich teaching learning at all levels particularly in higher education in areas such as curricular aspects, innovation, research, learning resources, student support, management and evaluation etc.

The integration of ICT has unprecedented possibilities in the area of higher education. Classrooms have changed drastically over a few decades and teaching leaning has become more diversified and interactive.

ICT TOOLS

Web Based Learning Objects

A web based learning object can be defined as "any digital entity, that may be used for learning, education or training". A web based learning object is usually a much smaller unit of learning, typically ranging from 2 minutes to 15 minutes.

These are self-contained and reusable and can be grouped into larger collections of content.

Game Based Learning (GBL)

Game based learning (GBL) is a type of game play that has defined learning outcomes. Generally, game based learning is designed to relate a concept with a game and the student is supposed to retain and apply the said concept to the real world situations. Game-based learning tools are becoming widely popular and accessible. In an effective GBL environment, there is a specific objective, experiences and actions to cater to the said objective are provided. Thus, in a risk free environment, the students learn the concepts and principles.

Artificial Intelligence

Artificial intelligence (AI) is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans. According to the father of Artificial Intelligence, John McCarthy, it is “The science and engineering of making intelligent machines, especially intelligent computer programs”. In education, AI helps in personalization, creating a global classroom, monitors progress and makes education a lot more interesting than before.

Robotics

Robotics is a branch of technology which deals with robots. Robots are programmable machines which are usually able to carry out a series of actions autonomously, or semi-autonomously. **Robots are enabling new avenues for pedagogy and classrooms.** According to a spokesperson at Robotis, South Korea’s leading Educational Robotics company, “Robotics is the best tool for **Project Based Learning (PBL)** for the 21st century and the most exciting way to learn by doing.” ICAP (France, an ambitious program for technology-enhanced learning) has identified 3 roles for robots in education.

- The robot as an educational subject
- Robots as learning support tools
- Telepresence robots

Mailing Lists

A mailing list is a compilation of email addresses that are used to send email to multiple users simultaneously. A mailing list address sends admin-specified email messages and can be used to send email to all subscribers in the list by other users. Work teams, college students, teachers, parents, and community groups all use email lists to communicate with one another.

The email database of the colleges is compiled from a genuine and most steadfast data sources and are kept updated at regular intervals.

The mailing lists are used to provide information regarding the seminars, webinars, conferences, trade shows, online surveys,

directories of college and universities, online subscriptions, magazine subscriptions and opt-in mails.

Social Media

Social media is about collaborating, networking, sharing and generating knowledge and content, and all of these features are of great value in the context of higher education.

In a survey by Babson survey research group and Pearson, 4, 000 teaching faculty from all disciplines in higher education, representing U.S. higher education professors, examined both the personal and professional impacts of social media.

According to the report, key findings were:

- 64.4 percent of faculty use social media for their personal lives, 33.8 percent use it for teaching.
- 41 percent for those under age 35 compared to 30 percent for those over age 55 reported using social media in their teaching.
- Faculty in the Humanities and Arts, Professions and Applied Sciences, and the Social Sciences use social media at higher rates than those in Natural Sciences, Mathematics and Computer Science.
- Blogs and wikis are preferred for teaching, while Facebook or LinkedIn are used more for social and professional connections.
- 88 percent of faculty, regardless of discipline, reported using online video in the classroom.

Online Learning Communities

According to an article published in volume 21, issue 5 of the *European Management Journal* titled "Learning in Online Forums", researchers conducted a series of studies about online learning. They found that while good online learning is difficult to plan, it is quite conducive to educational learning. Online learning can bring together a diverse group of people, and although it is asynchronous learning, if the forum is set up using all the best tools and strategies, it can be very effective.

Immersive Technologies

The immersive technology consists of several tools which can be used for education such as:

- Virtual Reality (VR)
- Augmented Reality (AR)
- Haptic Technology
- Teleimmersion

These technologies sense the body movement, postures, gestures of an individual as input and these inputs are made to interact with the immersive environment.

In the prevalent circumstances, with ICT providing immense potential to change the face of the modern classrooms, flipped classrooms and blended learning have emerged to cater to the needs of 21st century education.

The Future

Flipped Classroom and Blended Learning

Flipped Classroom is a pedagogical approach in which the teacher flips the classroom task by delivering learning content outside of the classroom generally through online mode. Here, the students watch online lecture at home, and participate in discussions and application of concept learned in the classroom under the guidance of the teacher. The class time is mainly for construction of knowledge than transmission of knowledge. With the flipped classroom, students are able to access content anytime, even beyond typical class time and progress at self pace.

In the flipped classroom, blended learning allows an opportunity to combine online and offline learning. Such a setting offers an interactive classroom experience via numerous Web 2.0 technologies with the addition of physical factors such as eye contact or a pat on the shoulder, which can play a role in motivating the student. Content, pedagogy and technology play integral role in blended learning.

The future of education belongs to ICT. Today, the main concerns relate to digital literacy, cost, infrastructure, teacher training, availability, participation, support etc. An emphasis on these aspects, the capacity building amongst teachers,

culture of quality and an attitude of excellence are the sure shot ways to be future ready.

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Analysis of Risk Assessment in Services of E-Commerce

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Abstract: *Recently the internet seems to have governed our lives. With the major shift towards digitization, the businessman as well as consumers is more relied on E-commerce. E-commerce stands for electronic commerce which implies the process of carrying out trading activities through electronic devices. The paper presented below performs the study of risk assessment while doing E-Commerce which is based on the primary data collected through a structured questionnaire that covered various parameters like personal details, choices and preferences of customers while making online purchases, along with the other factors such as purchasing habits, past experiences of online services, technological awareness and reliability, feedback procedure, etc.*

Keywords: *E-commerce, Risk, Risk management, Customers, Uncertainty*

1. INTRODUCTION

Ecommerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. There are many ways to classify ecommerce with respect to customers and business houses. One can categorize them according to the products or services that they sell, the parties that they transact with, or even the platforms on which they operate. Some of the services are mentioned below:

1. Stores that sell physical goods: These are your typical online retailers. Stores that sell physical goods showcase the items online and enable shoppers to add the things they like in their virtual shopping carts. Once the transaction is complete, the store typically ships the orders to the shopper, though a growing number of retailers are implementing initiatives such as in-store pickup. Some of the examples include Amazon, Flipkart, Myntra, etc.
2. Service-based e-tailers: Services can also be bought and sold online. The buying process for services depends on the merchant. Some may allow you to purchase their services straightaway from their website or platform. An example of this comes from UrbanClap, People who want to buy services from UrbanClap must place an order on the App before the seller delivers their services.

3. Digital products: Ecommerce is, by nature, highly digital, so it's no surprise that many merchants sell "e-goods" online. Common types of digital products include ebooks, online courses, software, graphics, and virtual goods. Examples of merchants that sell digital products are imagesbazaar (a site that sells stock photos), Udemy (a platform for online courses), and Slack (a company that provides real-time messaging, archiving and search for teams).

Apart from the various positive attributes of the ecommerce there is a major threat of risk factors also that incurs with it, where the risk is defined as the possibility of some uncertainty about an outcome in a given situation. Every business faces risks that could be present with an event and its consequences.

The various e-commerce transactions are carried out through various models, Some of the most popularly known E-commerce models are discussed below:

1. **Business to Consumer (B2C):** When a business sells a good or service to an individual consumer (e.g. You buy a pair of shoes from an online retailer).
2. **Business to Business (B2B):** When a business sells a good or service to another business (e.g. A business sells software-as-a-service for other businesses to use).
3. **Consumer to Consumer (C2C):** When a consumer sells a good or service to another consumer (e.g. You sell your old furniture on eBay to another consumer).
4. **Consumer to Business (C2B):** When a consumer sells their own products or services to a business or organization (e.g. An influencer offers exposure to their online audience in exchange for a fee, or a photographer licenses their photo for a business to use).

2. OBJECTIVES OF THE STUDY

- To study the perspective of customers towards online purchases
- To assess the risks observed by the customers and business owners while doing e-commerce.
- To study various measures to assure the customers safety and minimisation of the risk parameters identified by the various companies

3. METHODOLOGY

The research methodology is the exploratory research that is based on both primary and secondary data. Where the primary data was collected through a survey which was conducted and the data was gathered with the help of a questionnaire. The survey consists of 104 responses and is further followed by analysis and interpretations on the basis of those responses. Secondary data from various journals and websites was tabulated and analyzed to draw several results and reach a conclusion

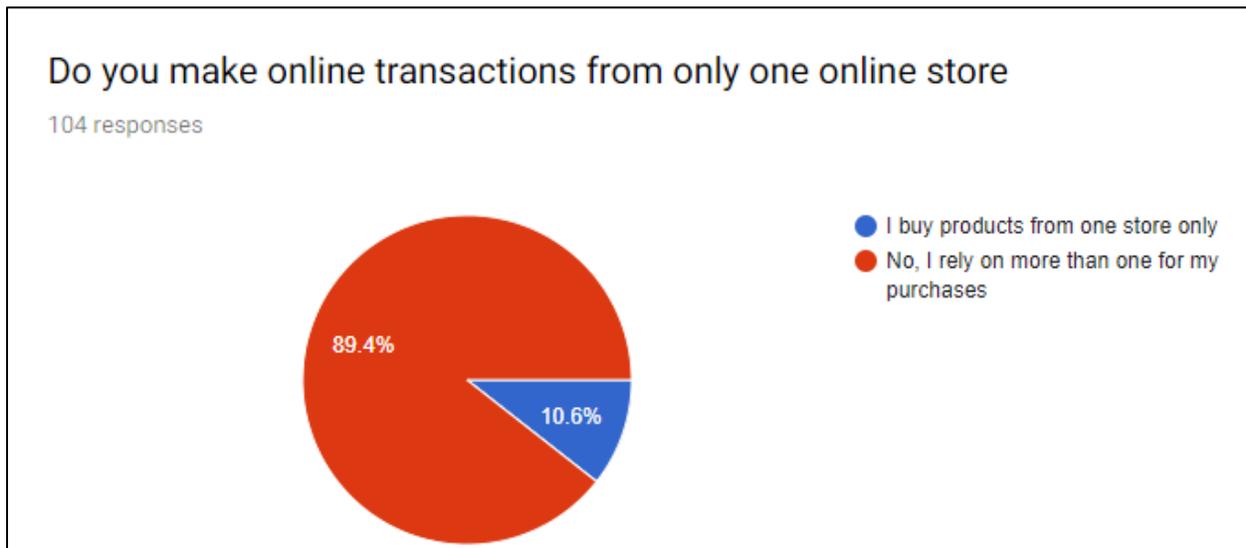
4. ANALYSIS AND INTERPRETATION OF THE CUSTOMER RESPONSES:

Competitor Analysis: There's always risk of other online sites,

performing better and deviating your customers. As the customers can access the opportunities offered by your competitor just by a click. In this competitive world, there will be too many competitors who will be offering the same products and services as you. Unless you have the best strategy that differentiates yourself from other competitors; it will become difficult to survive. So the companies have to keep a track on what are the new products that are introduced in online markets, at what price and what new facility are enabled.

For ex: Amazon provides faster delivery via Amazon Prime, which is a threat for Myntra, Flipkart etc.

A survey of 104 was conducted to know the customer's perspective about online purchases



89.4% people do not rely on any individual site for their purchases, so the business always has to keep in mind their competitors.



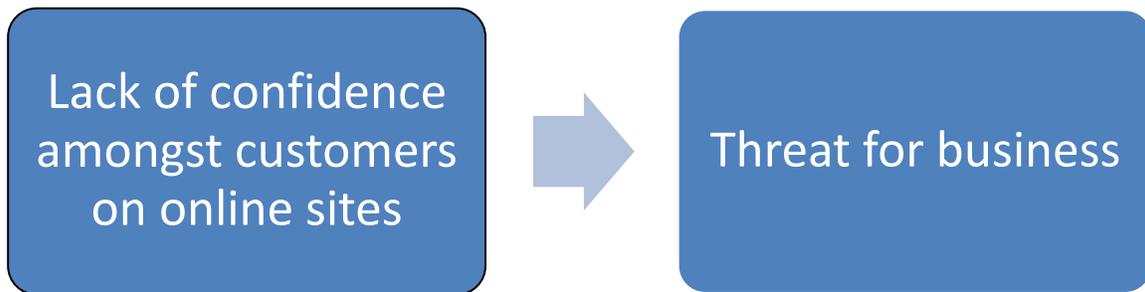
91.3% people always check for feedbacks of the product to be bought, to get a reality check.

Maintaining Customer’s Loyalty: One of the reasons why e-commerce companies face the struggle while building trust and loyalty with the customer is because a seller and a buyer don’t know each other nor they can see each other while making a transaction, unlike street-shopping. It takes few transactions, time and plenty of efforts by the company to build customer trust and loyalty.

The Headache Of Product Return and Refund: When the product is returned, due to whatsoever reason, whether a

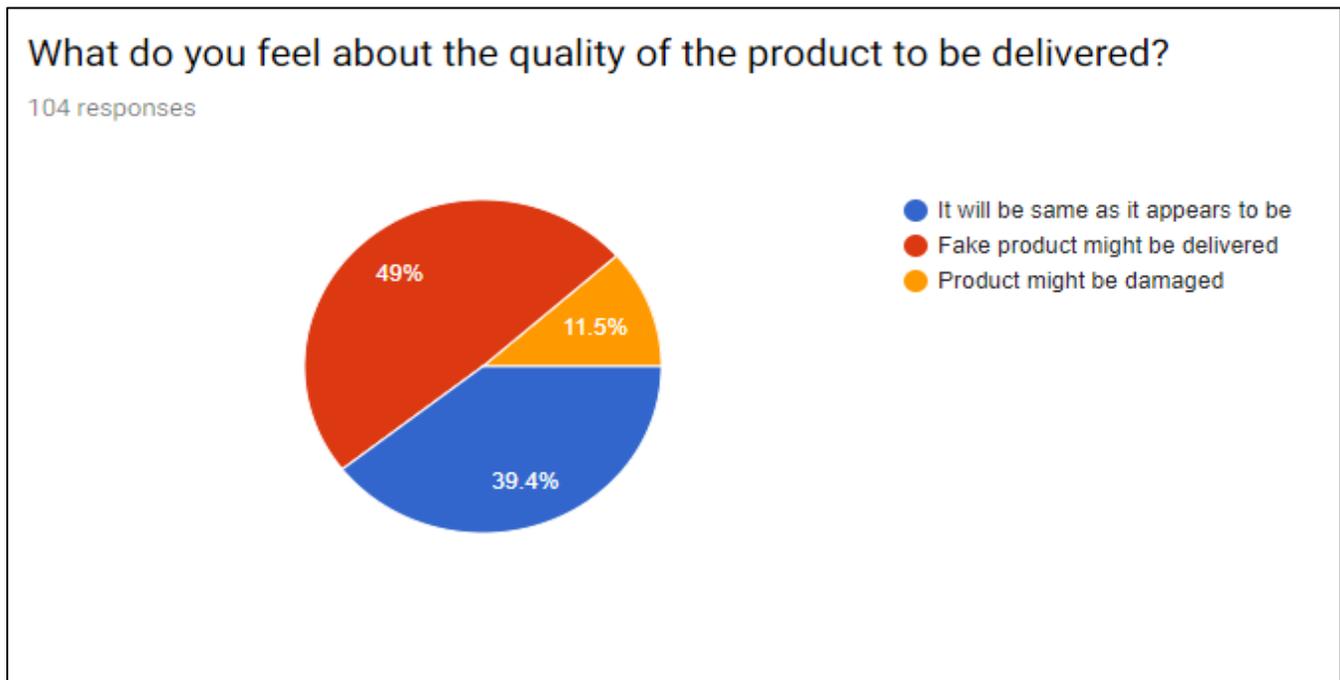
customer was dissatisfied or the product was damaged, the business suffers a heavy loss of shipment and reputation. Cost of logistics and shipping have always been scary for those e-commerce sellers who deliver the product for free

Problem of Data security: Security issues over the web can lead to nightmare. Fraudsters post lot of spam and they may attack the web host server and infect all websites with viruses. They can get access to all your confidential data about your customer’s phone number, card details etc.



Risk in E-commerce from customer’s perspective

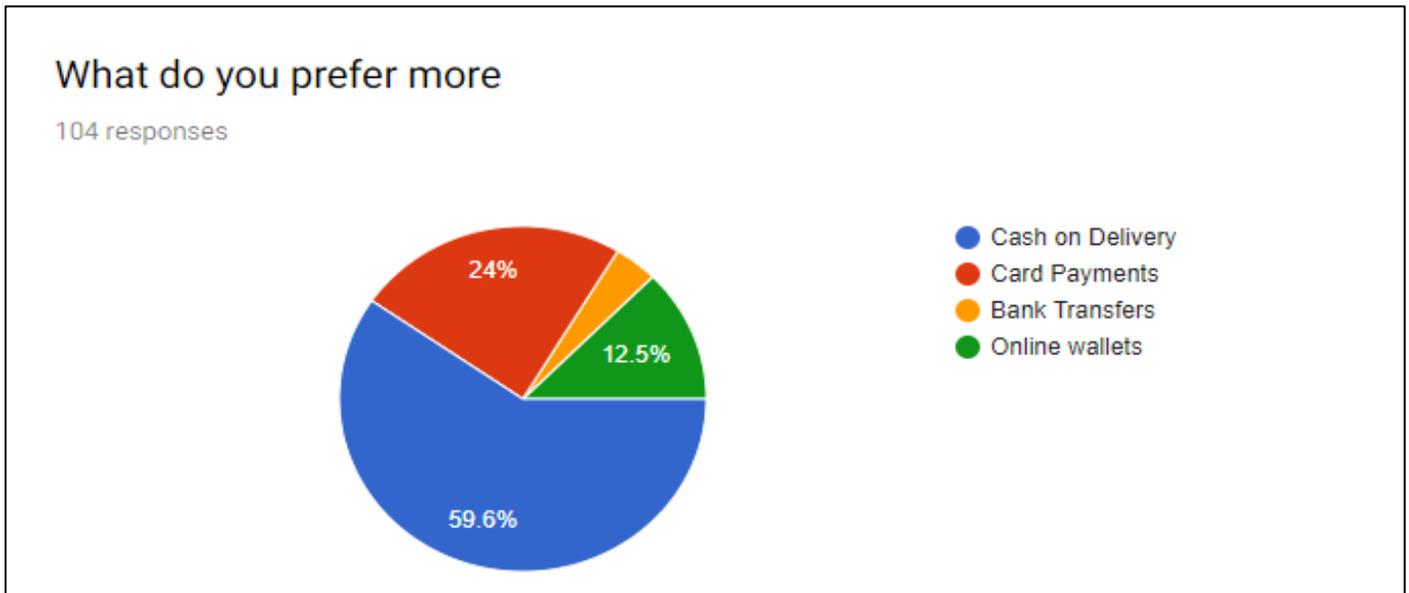
Quality issues: Even though online shopping has become very common by providing various advantages, one drawback that is hard to overcome is the fact that it lacks, personal touch. This results in doubts in customers about the quality of the product to be delivered, will it match to what you ordered, can the assurance of originality be trusted or not. Same is the case with cosmetics, most of the time fake products are available on online sites for purchase.



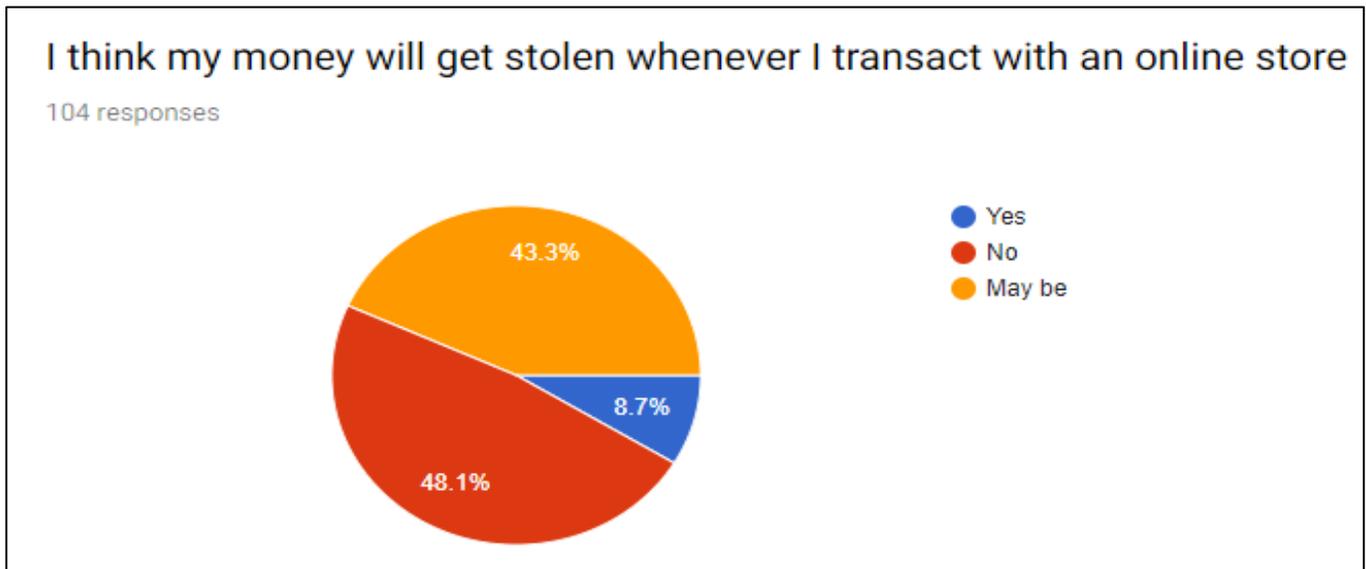
Amongst 104 people, 60.5% are not sure about the product’s quality.

Delivery and logistics: Even facilities like Amazon prime, takes at least one day to deliver the product. For the customers who want immediate availability of products, online purchase cannot be an option. Because the delivery can take from a minimum of 1 to maximum of 30 days, and the longer the duration of delivery, it increases the chances of cancellation of order.

Digital payment failures: This is a fear that can easily be seen because, online impersonation, hacking, theft can be done by experts and is sometimes non-traceable. Therefore people rely more on cash on delivery, with the very perspective of having the product in hand and then paying for it.



59.6% people rely on cash on delivery as a mode of payment

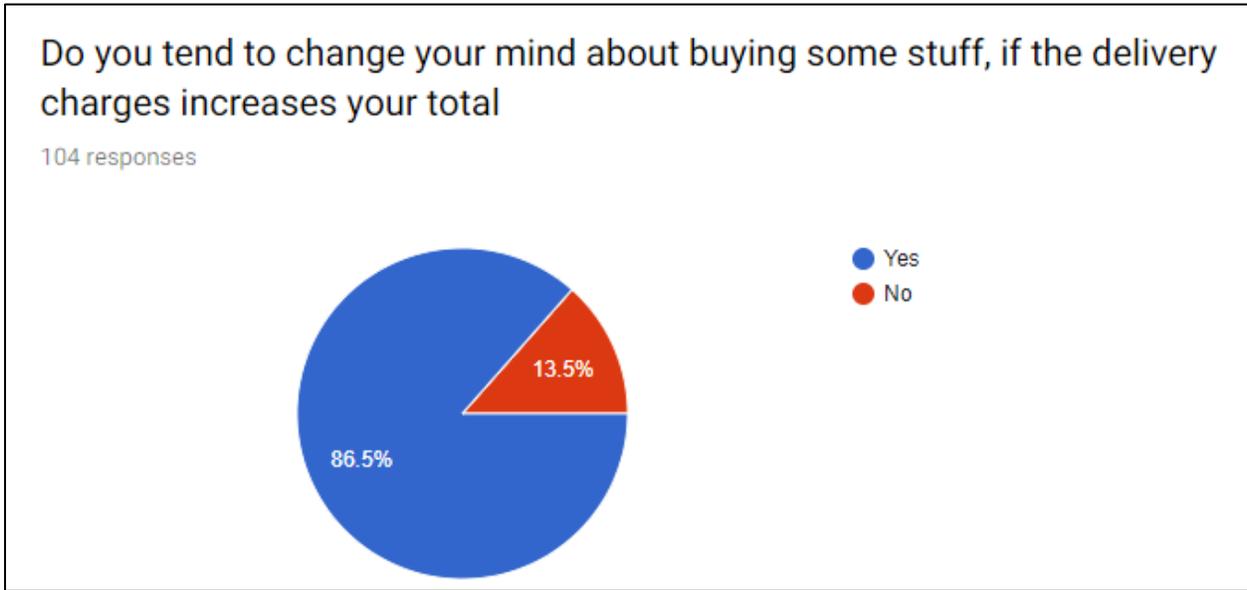


Here, the chart shows uncertainty of people regarding online transaction safety.

Additional charges

Additional charges are a valid cost addition for the online business, but this is also the reason why wide majority of

people make up their mind about buying something and change it later on just by observing the extra charges of delivery.

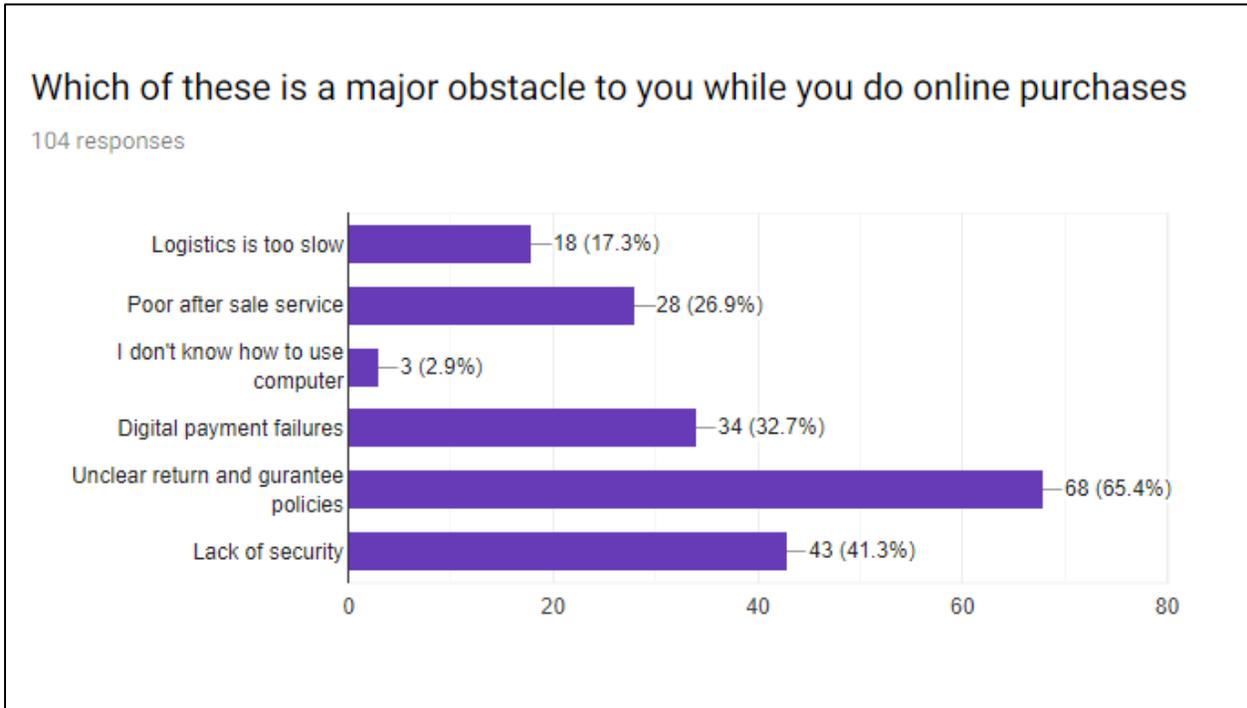


86.5% of people change their mind about buying a particular product

Unclear return and guarantee policies

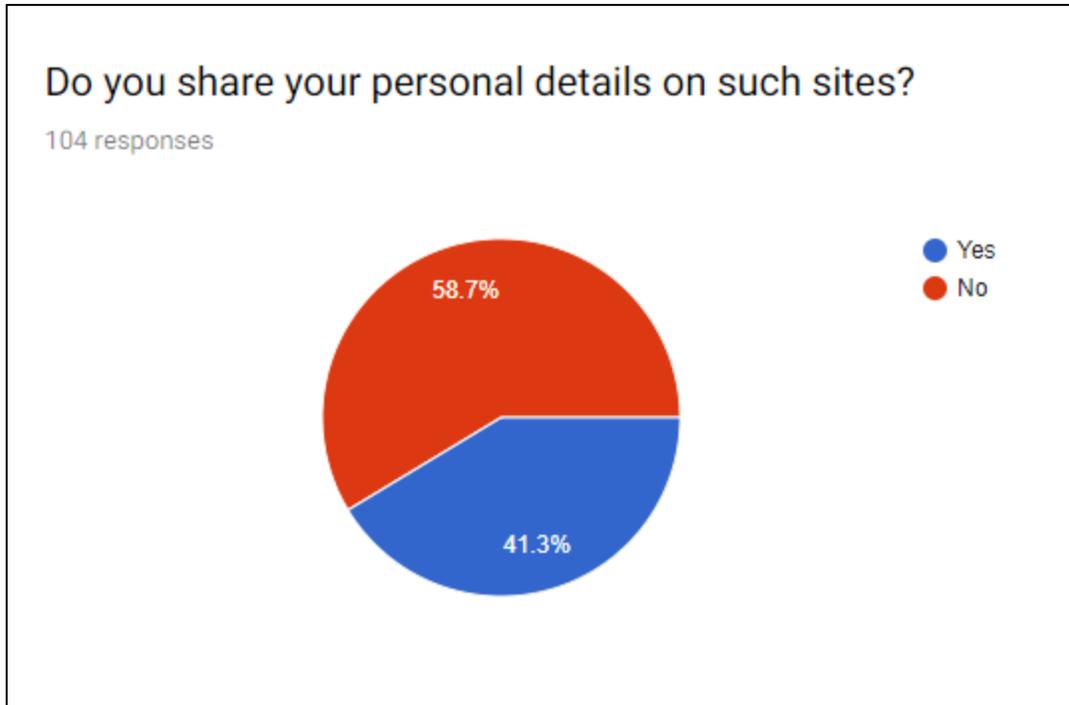
Amongst all the reason for online transactions risks, major uncertainty was observed with the return and guarantee

policies. Sometimes people tend to change their mind about buying a product because they are not sure about the return policies. Which leads to “what ifs” What if the quality is not the same as promised, what if the size isn’t the same, etc.

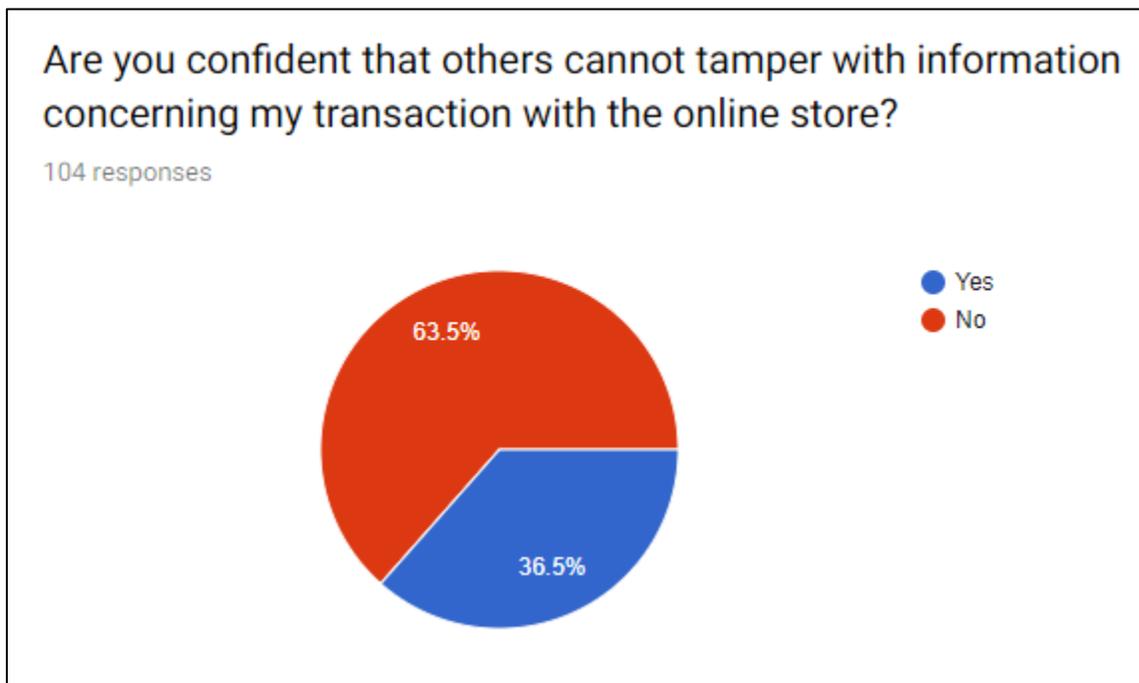


68 people voted for ‘unclear return and guarantee policies’

Lack of security Commerce sites record important customer data like, Name, Email Id, Phone Number, Address, Bank details etc. which are important for the business to conduct an online transaction but at the same time makes customer doubtful and unsure about the transaction. They fear that the information that they provided on a site can be misused by other sources, which also often results in email and message spamming by fraudulents.



More than half percentage of people are not willing to share their personal details on such online websites.



63.5% People are uncertain about the information usage that they provide on online site

Today, people are becoming more and more conscious and aware about the losses and threats that they can face on such platforms. So to maintain customer loyalty these platforms have taken steps like:

Enabling Log in Id and passwords, This gives the customer authority of logging into an account only according to their wish, and this reduces the chances of impersonation, until and unless the log in credentials are not transferred to someone else.

Set up Systems Alert for suspicious activities, The online sites keep the customers updated about their log in history and pending transactions

Notifying customer about cart updates, Even if the customer has added something into their online cart they inform the customer that a product has been added to the cart or it has been their for such and such duration.

Sending detailed list of transactions via email, when the order is placed the online sites send the customers an email consisting of detail about their order including size, color, picture, cost, discount offered, etc. Eliminating the scope of confusion.

Sending OTP for costly transactions, mostly for electronic items the delivery will not be made until and unless the OTP for that order is not provided. So that even if that is not 'cash on delivery' someone else do not accept that order without having that OTP.

Enabling tracking Number for orders, Customers remain well aware about their orders as they can track the status of their orders.

Taking customer feedback after every purchase and also after customer care services, customers do not buy product before checking the feedbacks provided by other users.

5. PREVENTION STRATEGIES TO RISK ASSESSED

1) An absence of Online Identity Verification: This challenge can be solved by taking the proper steps to verify the customer's information. First of all recognize signs of suspicious activities like if any customers are placing high priced orders or large orders, Detect fake phone numbers or email address, check zip code whether it is matching with state/city. Besides this when a customer signs up, send a verification link via a text message or email to validate the genuineness of customer. And when a customer makes a COD purchase automated call can be dialed out to the customer and ask him/her to validate the delivery address.

2) Delivering on Omnichannel customer service: Equip your team with the right technology - Set up customer support staff with the right technology so that they can reach out to your customers via their preferred channels like phone, email, live chat, video call, online help centers or in-app messaging. Identify the key channels - Identify the channels which are most important to your customers. Integrate and optimize those channels by adding personalized messages and offer one-to-one interaction with live chat or video calling. Maintain the Context - Direct the conversations based on a user's previous response. Keep a track of customer conversations with important parameters like user profile so you can always respond contextually to the customers irrespective of the channels they used.

3) Competitor Analysis: Conduct proper and deep research of your competitors. Put your efforts in making strategy which

enables you to shine brighter than your competitors. Use social media platforms and blogs for promoting your products. Invest in promotional offers this will help to get more web presence and customers.

"Businesses with customer's loyalty programs, on average, are 88% more profitable than customers who do not." Carry out research to find which new products are more in demand and remove old and unwanted items less in demand. By offering best & extraordinary customer services can even help you to be one step ahead of your competitors.

4) Maintaining customer loyalty: "Customer service is what you and your organization provide. Customer loyalty is the result of the service." – Shep Hyken

To earn customer loyalty, what you must provide is excellent customer service. You must make sure from ordering online to shipping, the customer is satisfied with your service.

A few simple ways to increase trust with visitors are as follows:

- Display your address, phone number, and pictures of staff, customer testimonials, and credibility badges on your website.
- Add live chat option to the website.
- Create blogs. Often blogs help e-commerce to build trust.
- Make customer service as a priority before profit. Always remember, it's always easy to maintain an existing customer than to find a new.
- Create loyalty programs.

As the points are not transferable to other companies, the customer will definitely make next purchases from your sites.

5) The headache of product return and refund: Return and refund are also part of great customer service, therefore it will be a big mistake to underestimate them. The best thing you can do is build a strong returns policy. Below consideration should be kept in mind while designing returns policy:

Never hide your policy. Be transparent. Use plain English that even understand by laymen. Not all your customers that will read the policy will be highly intellectual. Don't use the scary stuff in the policy like, "you must", "you are required", the too harsh policy may stop customer to purchase the product. Outline what they can expect from you. Provide them various options for payments and shipping. Educate your staff about your return policy. So, that they can assist customers quickly and effectively. Be prepared to face the cost of your mistakes. If the product is shipped wrong, then take extra efforts to make the customer happy.

6) The struggle of competing on price and shipping: To survive in the competitive market, e-commerce companies need to distribute their own inventory to fulfillment warehouses, become extremely resourceful shippers, or find

some unique products to minimize this problem. Because ultimately every online shopper expects fast and free shipping that too in lowest price.

7) A problem of Data Security: Manage your own servers and do not use common FTP to transfer files. FTP is prone to theft. If any developer copies any file in an open Wi-Fi network can lose passwords and other confidential data to the thief. By constantly updating the shopping cart you can minimize the risk of data stolen. Most content management systems store their data in the database. Developers should take backups at regular intervals and should retrieve the data if stolen.

6. CONCLUSION

It is clear from the study that even though customers are frequently using online platforms for making transactions, but they are still not very confident about the safety of their information, and deposition of the quality offered as promised. Ecommerce is not declining in India, and instead, it is opening more opportunities. There's huge temptation for startups emerging in the niche segment. Despite Flipkart and Amazon controlling over 75% of the market share, there are many eCommerce companies who are vertical players. Customers are expecting personalized experiences across web, mobile and Iot devices. Behind the curtain, commerce teams are juggling payments, warehouse logistics, in-store systems and deliver management solutions at once. Surviving in the E-commerce competition, which is no less than war, requires outstanding strategies. If one doesn't want to struggle, then they have to give extra efforts on their every aspect of the business. One

must be prepared for challenges and growth at every stage of your business, and ultimately it will have a better chance to bloom.

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Monitoring and Control System for Home Automation Using IOT

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Abstract: *This paper proposes an effective application for IoT (Internet of Things) used for monitoring and controlling the home appliances via World Wide Web (WWW). Home automation system uses the portable devices as a user interface. They can communicate with home automation network through an Internet gateway, by means of low power wireless protocols like Zigbee, Wi-Fi etc. This paper aims at controlling home appliances via Smartphone using Wi-Fi as communication protocol and raspberry pi as server system. The user here will move directly with the system through a web-based interface over the web, whereas home appliances like lights, fan are remotely controlled through easy website. An extra feature that enhances the facet of protection from fireplace accidents is its capability of detect the smoke in order that within the event of any fireplace, associates an alerting message and an image is sent to Smartphone. The server will be interfaced with relay hardware circuits that control the appliances running at home. The communication with server allows the user to select the appropriate device and the acceptable device. The server communicates with the corresponding relays. If the web affiliation is down or the server isn't up, the embedded system board still will manage and operate the appliances domestically. By this we provide a climbable and price effective Home Automation system.*

Keywords: *IoT (Internet of Things), WWW, Home automation system, Wireless Protocols.*

1. INTRODUCTION

Today, technology has become an integrated part of people's lives. It has, and continues to influence many aspects of daily life and has allowed better social interaction, ease of transportation, the ability to indulge in entertainment and media and has helped in the development in medicine.

The creation of many devices such as mobile phones and computers have caused many people to rely on technology to communicate with their friends, store information such as pictures, movies, documents, and music. The internet has become a common interface that many devices use in order to simplify the daily life of many people. Internet helps us to bring in with immediate solution for many problems and also able to connect from any of the remote places which

contributes to overall cost reduction and energy consumption. Home automation or sensible home may be delineated as introduction of technology within the home atmosphere to provide ease and protection to its occupants. By using the technology of the Internet of Things, the examination and execution of home automation have got additional average. Various wireless technologies which is able to support some sort of remote knowledge transfer, sensing and management like Bluetooth, Wi-Fi and cellular networks are used to enter abundant levels of acumen within the home. Home automation for the older and disabled will offer raised quality of life for persons [1]. It may provide an interface to home appliances or the automation system itself, via telephone line or the internet, to supply management and observance via a smart phone or personal computer.

The Internet might even be utilized in home automation that offers several decisions from economical use of energy to additional console, protection and safety. Even over great distances the user can monitor and manage their home gate, various appliances and turn on/off the T.V without any human intervention. Despite these advantages, home automation has however received extensive approval and an attention owing to its high significance and complexness [2]. This paper will describe an approach in which we implement a controlling and continuous monitoring system to control various home appliances with Android smart phone.

2. INTERNET OF THINGS

The Internet of things (IoTs) can be defined as connecting the various types of objects like smart phones, personal computer and Tablets to internet, which brings in very new-fangled type of communication between things and people and also between things. With the introduction of IoTs, the research and development of home automation are becoming popular in the recent days. Many of the devices are controlled and monitored for helps the human being.

Additionally various wireless technologies help in connecting from remote places to improve the intelligence of home environment. An advanced network of IoT is being formed when a human being is in need of connecting with other things. IoTs technology is used to come in with innovative idea

and great growth for smart homes to improve the living standards of life.

IoT Architecture

The IoT-based architecture provides high-level flexibility at the communication and information. It is an approach which is relevant in many different environments such as patient monitoring system, security, traffic signal control or controlling various applications. The IoT project aims to bring out the various opportunities of using IPv6 and other related standards to overcome the disadvantages using of the Internet of Things [3]. The IoT proves a dominant and thorough study of all sensible functionalities, mechanisms and various protocols that can be used for building IoT architectures however interconnections may occur between all totally different IoT applications.

3. PROPOSED SYSTEM

Every user who is experienced in the existing system may think of a system that may add more flexibility and run with some common applications such as android. This work is designed in such a way to avoid the disadvantages of the existing system. The proposed system supports more elasticity, comfort capacity and safety.

The main objectives is to design and to execute an cost effective and open source home automation system that's capable of leading most of the home and sustain the house automation system. The predictable system contains a great elasticity by using wireless reliable technology to interconnecting various modules to the server of home automation system. This in turn reduces the deployment cost; will add to the flexibility of advancement, and system reconfiguration. The proposed system can make use of wireless LAN connections between various sensor, hardware modules and server, and various communication protocols between users and server [4].

The block diagram of proposed system is shown in Fig. 1. The Infrared sensor (IR) is a low cost infrared object detection unit that we can be applied at home using IR LED's. It gets triggered when light is detected. When the sensor is sensed it sends a signal to raspberry pi. From the raspberry pi, by means of wifi configuration and IoT concept we can turn ON/OFF the light. Similar to IR, the PIR sensor is used to detect the human being presence and accordingly the fans are turned ON/OFF.

The lights and fans can be controlled by creating web server in personal computer, tablet or we can create an app in mobile. Finally the fire detection sensor is triggered if there is any fire accident and immediately an alert message along with the image and video taken in camera is sent to mobile phone and an automatic phone call is made to nearby fire station. By using mobile phone we can overcome the disadvantages of sending message to E-mail [5] such as possibilities of the attachment may contain virus, due to many spam messages the

emergency mail could not be viewed and user has to login with email id and password which causes a time delay.

SYSTEM DESIGN

A. Sensor and Camera Interfacing

The IR sensor module is easy for operation. IR sensors detect infrared light, which is used to turn ON/OFF of lights. Passive Infra Red (PIR) sensor has been used to detect human. The PIR sensors are tuned to detect when a human being or an animal arrives in their proximity [6]. The fire detection sensor consists of a Light Dependent Resistor (LDR) which gets sensed when fire is detected. This will help to take immediate actions if there is any fire accident [7]. A camera is attached by which if fire is being detected, the camera takes the snapshot of the accident and sends it to smart phone by which the user can take the immediate action.

B. Raspberry pi

The Raspberry Pi is a low cost credit card sized single-board computer developed by raspberry pi foundation. Raspberry pi is controlled by a modified version of Debian Linux optimized for the ARM architecture. The core of the home automation system is this minicomputer [8]. Here we are using model B plus. The setting up of raspi consists of selecting raspbian OS from prebuilt SD card. The prebuilt SD card consists of raspbian, arclinux, pidora, open ELEC OS operating system. After the OS selection we need to configure raspberry-pi using Raspi -config command. We can enter into raspi desktop using startx command.

C. Wifi Router Configuration

The wifi unit provides the medium for communication. It can be also configured to make security services. The wifi should be configured with a certain address and user commands will be directing through wifi unit. We may use `sudo nano /etc/network/interfaces` for configuring wifi with raspberry-pi.

D. Proposed IoT Architecture

The physical layer consists of the devices which are to be controlled. The data link layer consist of IoT gateway router, device manager and various communication protocols. The device manager will be the part of raspberry pi. The raspberry pi is used as the IoT gateway which communicates to personal computer or smart phone by means internet in the network and transport layer. The application and presentation layer consist of web portal which is nothing but designing a web page by which we can control the various appliances [9]. The appliances can also be controlled by creating an app in mobile phone which is similar to web portal. Smart phones can be used to take the immediate action if there is an emergency and it will automatically connect to nearby fire station in case of any fire accidents. The layer of IoT for the proposed solution is shown in the Fig 2

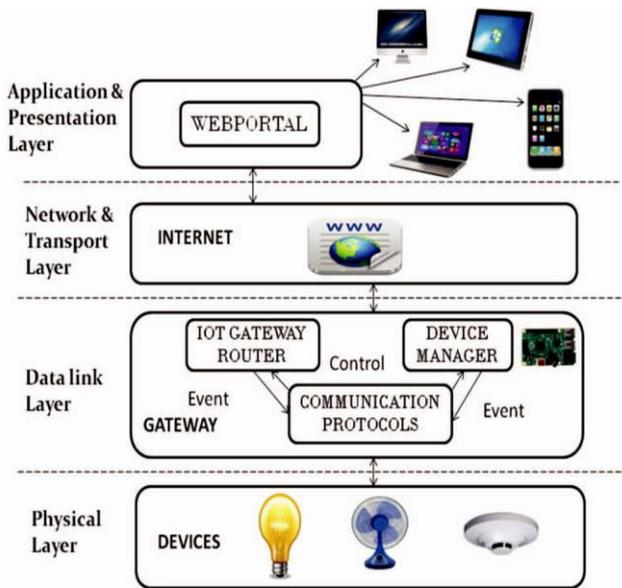


Fig. 2. Layers of IoT for Proposed Solution

E. Web Server

Various applications located at home can be remotely controlled or monitored by implanting the devices with the web server. The static and dynamic information are stored in embedded system and it fulfills the demands on web browsers. Such type of web servers are called embedded web server [10].

It's not solely that we will use the Raspberry Pi to induce the information from servers via the web; however it also can act as a server itself. There are many alternative web servers that may be installing on the Raspberry Pi. Ancient web servers, like Apache, serve the files from Raspberry pi board to purchasers. Raspberry pi also can serve sound, video, workable programs, and far a lot [11]. However, there's a new breed of tools that reach programming languages like Python and JavaScript to make net servers that dynamically generate the hypertext mark-up language once they receive communications protocol requests from an online browser. A sample web page is shown in the Fig. 3



Fig. 3. Sample Webpage

F. User Interface

User interface is everything that the user will see and act with. During this module the android enabled phone makes control of the house automation system. Android based Smartphone provides a range of pre-build program parts like structured layout objects and program controls that enables us to create the graphical program for our app. Android also provides other User interface modules for special interfaces such as dialogs, notifications, and menus. The interface should enable the user to look at the device status and to regulate device.

4. PROPOSED DESIGN

By using the concept of IoT technology the various devices like Lights ON/OFF, Fan ON/OFF etc can be controlled. A web portal can be created where the devices can be controlled and monitored. The same can be implemented in android smart phone for continuous monitoring and control. If there is any sudden fire attack, we can view the image of the accident and how dangerous it is, simultaneously an automatic call to nearby fire station is implemented. A web page can be designed such that we can control and monitor the home. The same can be implemented in an android smart phone where we can take immediate action if there is any emergency as well can control and monitor the home from remote places. The raspberry pi home page where the user can log in with their username and password [12]. The living room with various devices to be controlled. Now the devices can be turned ON/OFF by means of the users wish. The control and monitor of the devices can be done by using the technology Internet of Things.

5. CONCLUSION

In this paper, we have proposed the event of a home management and security system exploitation by Raspberry pi and Internet of Things technology. The system will be suitable for real-time home safety monitoring and for remotely controlling the home appliances and protection from fire accidents with immediate solutions. The system may be employed in many places like banks, hospitals, labs etc. that dramatically cut back the hazard of unauthorized entry. Proof may be given to the safety department if any theft issue happens.

FUTURE APPLICATIONS

The various future applications may be used by controlling various household devices of house with internet, Industrial automation and management through internet, machine-driven fireplace exit systems and improvement of security problems in extremely restricted areas.

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Influence of Information and Technology in Higher Education with Reference to India

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Abstract: *The new scenario has come up with changes practically in all spheres of global communication and global economy. This directly made an effect in education sector leading to several structural changes in the form of organization and delivery of educational services. Education was primarily seen as a set of skills, attitudes and values required for citizenship and effective participation in modern society. The earliest objective of education, teach how to learn, problem solve, and analyses the old with the new, is now transformed from desirable global to an essential one. To achieve these results, education must be engaging in the sense that the students are involved in the learning process and not viewed simply as recipients of knowledge, also what the students is learning is more important as member of society and as a valued knowledge employed in the global market place.*

1. NEW FUNCTIONS OF HIGHER EDUCATION

Higher education is at the top of the education hierarchy and determines to a large extent the state of the education system of the country, especially its quality. As such it has a responsibility towards the education of students as well as better development of society. The world conference on higher education (world conference on higher education, assembled at UNESCO headquarters in Paris, from 5 to 9 October 1988) proclaimed in its article 1 as one of the missions and functions of higher education 'to contribute to the development and improvement of education at all levels, including through training of teachers'. Achieving education for all should therefore be one of the responsibilities of the higher education system.

However, in reality higher education has been concerned mainly with human resource development for the modern economic sector, has given the excellence to the society and has produced elites. Institutions of higher education in developing countries have mostly kept to their traditional functions and objectives, and the 'ivory tower' idea that they should only deal with theoretical knowledge, show interest to the formulation of theory and research, and value knowledge ownership and preservation idea. It has hardly concerned itself with other levels and types of education except through some ad hoc individual efforts without any institutional mechanism. Paradoxically, the foundation for education, which lies at the

basic educational level, has been ignored to make the whole education system weak and fragile.

Higher education has an important role to play through its graduates who should provide leadership roles in education as researchers, teachers, consultants and managers, who should create and apply new knowledge and creations, and who should provide analytical perspectives on development problems and service to public and private sector. Higher education through its research function could identify the preconditions for a supportive policy context for the development of basic education and explore techniques of mobilizing resources. Through its research, training and service programs (the three principal functions), it could contribute to build national technical capacity and contribute to strengthen international solidarity. In particular, to promote basic education for all, higher education through its three principal functions, could improve access and equity in basic education, its quality and relevance and improve its efficiency and management.

One must not forget, however, that even for higher education to be successful in undertaking the above tasks, a supportive policy context for itself is needed and that would call for extensive and intensive reform in higher education. The role of higher education has to be developmental and transformative and not just fitting individuals in the labour market. For that to happen, its management has to be improved so that it can function efficiently with. At least, minimum basic resources the development of basic education and literacy should be an explicitly recognized function of higher education as instruction, research and public service. An institutional framework for the development of basic education is essential with in the institutions of higher education.

2. ICT AS A CHANGE AGENT FOR HIGHER EDUCATION

Information and communication technologies have become common place entities in all aspects of life. Across the last two decades the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavors within business and governance. The affect of ICT has not been too comprehensive in education as in other fields. Education is considered socially oriented activity and quality education has traditionally been associated with strong

teachers having high qualification and can make personal contact with learner. ICT in education lends whole itself for child – centered learning and mostly this generate tension for some teacher and students. But with the fast moving development of digital media and information, the role of ICT now become more and more important and the same will continue over the years.

ICT is a force that has changed many aspects of the way we live. The impact of ICT has widened across over all the fields such as medicine, tourism, travel, business, law, banking, engineering etc. The way these fields operated today is vastly different from the ways they operated in the past. But when one look at education, there seem to have been an uncanny lack of influence and far less change than other fields have experienced. A number of people have attempted to explore (eg. Solo way and prior, 1996; collis, 2002) this lack of activity and influence.

There have been a number of factors impeding the wholesale uptake of ICT in education across all sectors. These have included such factors as a lack of funding to support the purchase of the technology; a lack of training among established teaching practitioners, a lack of motivation and need among teachers to adopt ICT as teaching tools. But in recent times, factors have emerged which have strengthened and encouraged moves to adopt ICTs into classrooms and learning settings. These have included a growing need to explore efficiencies in terms of programme delivery, the opportunities for flexible delivery provided by ICTs; the capacity of technology to provide support for customized educational programs to meet the needs of individual learners; and the faster use of technology has given the access of information and communication.

These factors and many others are bringing strong forces to bear on the adoption of ICTs in education and contemporary trends suggest we will soon see large scale changes in the way education is planned and delivered as a consequence of the opportunities and affordances of ICT.

3. IMPACT OF ICT ON EDUCATION

The integration of ICTs into teaching- learning process has the potential to enhance the teaching learning objectives along with using diverse tools in teaching learning. Using ICTs in education means more than simply teaching learners to use computers. Technology has been introduced for the development of education not an end itself. Thus ICTs, should be encouraged the students to explore, observe, to evaluate and use knowledge from different sources. Surveys and research has shown that using of ICTs in classroom helps students to improved their skills and efficiency of learning.

ICTs have assured to wider the basic nature of education. ICTs enable or link the education with audio and visual material that can enrich the full range of learner's senses. The technology also creates a qualitative expansion in the means of education by taking a process rooted in the one way delivery of

knowledge making it more participatory and reciprocal. Computer communication takes a system of learning based in narrow linear, narrative forms, and opens it up to a wide range of nonlinear, exploratory processes that allow the learner to make full use of his or her own multiple cognitive maps. As children themselves create learning environment which grow in learning process. Same as incorporation of ICTs make the teaching and education more influencing for teacher and students as well. ICTs enable the students to access the knowledge from diverse ways such as use of internet, TV, satellite and cable network.

The role of ICTs is crucial in shaping the services for future in knowledge management. The knowledge management environment embraces the entire information transfer cycle, from the creation, structuring and representation of information to its dissemination and use.

Impact of ICT on what is learned: traditionally the education system only focused on content, from past many years education has been contracted only around the textbooks. Lecture method of teaching was so comprehensive with learning. Contemporary settings are now favoring curricula that promote competency and performance. Now curriculum start focusing and concerned more with the information will be used than with what the information.

ICTs are able to achieve all these requirements and generate so many examples which enable the children as well students to stand and perform outstanding by affordance of these technologies. From many years teachers wanted to adopt that curriculum which enables them to use all senses in teaching, this was possible with the comprehensive availability of ICTs tools and equipment's, so that new way of learning can enhance. As students and teachers gain access to higher bandwidths, more direct forms of communication and access to sharable resources, the capability to support these quality learning settings will continue to grow.

Expanding the pool of generic skills: another way in which emerging ICTs are impacting on the content of education curriculum stems from the ways in which ICTs are dominating so much of contemporary life and work. There is also a need for an educational organization to make sure that the graduates are able to perform proper information literacy, 'the capacity to identify and issue and then to identify, locate and evaluate relevant information in order to engage with it or to solve a problem arising it.'

The drive to encourage such developments among the organization to ensure that there graduates no able to give excel in their respective subjects but also have general attributes and generic skills. The generic skills included numerous skills such as – to solve problems, to communicate effectively, to be able to negotiate outcomes, to manage time, project management, and collaboration and team work skills. The expanded of ICTs in every – day life have seen more development include information literacy and as the

development of ICTs grown we are expecting more development in future.

Impact of ICT on how students learn: as the technology and information widely grown it influence what is being taught and learned in school now transformed to teacher centered to student centered. ICTs makes the curriculum shifted to competency based to technology – facilitated approaches, contemporary learning setting now encourage students to take responsibility to their own. In the past students have become very comfortable to learning through transmissive modes. The growing of ICTs has change many of the strategies employed by both teachers and students learning process expand largely in it.

Student –centered learning: technology has the capacity to promote and encourage the transformation of education from a very teacher directed enterprise to one, which supports more students- centered models. ICTs enables the children to find out the solution of problem, increased use of technology make them possible to connect anyone and choose the experts from whom they will learn.

Supporting knowledge construction: the emergence of ICTs as learning technologies has coincided with a growing awareness and recognition of alternative theories for learning. The theories of learning that hold the greatest way today are those based on constructivist principles. These principles posit that learning is achieved by the active construction of knowledge supported by various perspectives within meaningful contexts. In constructivists’ theories, social interactions are seen to play a critical role in the processes of learning and cognition.

ICTs gave many opportunities to learners which enhance the constructivist approach among learners. As ICTs provide many opportunities for constructivist learning through their provision and support for resource based, student centered settings and by enabling learning to be related to context and to practice. Use of ICTs in any kind makes the learning more effective and also supports various aspects of knowledge construction and as more and more students employ ICTs in their learning processes.

Impact of ICT on when and where students learn: as we discussed earlier that at past students have to be participate in lecture method teaching styles. At that time students have very little choices in their learning area as they have to be forced or pushed to accept that learning style also. But ICTs come out from all the problems as now they can explore more and more in their field and have wider choices in their education. ICTs make the children to create themselves according to the competitive edges.

In the present scenario students are very proactive and they do not attend regular colleges and classes, now with the developments of technology students are attending distance courses and classes. Use of the ICTs enable the education to reach the students who are off- campus. Now today many,

more students are able to make this choice through technology-facilitated learning settings.

With the lots of flexibility provided by ICTs, enable the students facilitate education anywhere. Also ICTs enables the students to meet their personal requirements irrespective of any fields of education. ICTs not help the excel students but also provides various ways to a slow learner to achieve their goals. This flexibility has heightened the availability of just-in-time learning and provided learning opportunities for many more learners who previously were constrained by other commitments.

ICTs also provide no time barrier education, students can learn according to their need or their time availability. Learners are now have that access which allows them to participate in the educational activities when time permits and these freedoms have greatly increased the opportunities for many students to participate in formal programs. As well as learning at any time, teachers are also finding the capabilities of teaching anytime to be opportunistic and able to be used to advantage. ICTs support their services 24*7 teaching and learning. The continued and increased use of ICTs in education in years to come, will serve to increase the temporal and geographical opportunities that are currently experienced.

4. CHALLENGES WHILE DEVELOPMENT OF ICT

A number of new challenges has arose while development of technology. These include changes to the makeup of the teacher pool, changes to the profile of who are the learners in our courses and paramount in all of this, changes in the costing and economics of course delivery.

Expanding the pool of teachers and students: in the earliest years the roles of teachers were very classified and certain and only given to highly qualified teachers, with the upcoming development of ICT in today’s teacher’s also have wide variety of option to deliver their context. The changing role of the teacher has seen increased opportunities for others to participate in the process including workplace trainers, mentors, specialists from the workplace and others. Though for using of technology we need to pool more teachers to provide support for learners in a variety of flexible settings. And this changed pool of teachers will tend to change more responsibilities and skills and also need for more facilitative than didactic teaching roles.

Education system for students earlier was totally different, education has been available to some limited students whereas it does not meet the requirement of every student. But through the flexibility of technology enable to every student to take participate in educational opportunities ad finding for the same for them. The pool of students is changing and will continue to change as more and more people who have a need for education and training are able to take advantage of the increased opportunities. For example students now able to get off campus education and can achieve their goals.

Cost of education: in the past the education was limited at a certain fields and area, the cost generated in that education almost fixed and generated by the educational institutions. But the costs associated with the development of high quality technology – facilitated learning materials are quite high. The cost of delivery education have not been found diminished as expected. The main reason for this has been the need to maintain a fair ratio between the teachers and students the expectation of students that they will have access to teachers in their courses and programme. As compared to traditional education this technology facilitated education is quite expensive in all areas of consideration, infrastructures, course development and course delivery.

5. SOME OTHER CHALLENGES ARE AS FOLLOWS:

The identification of stakeholders and the harmonizing of efforts across different interest groups.

- The piloting of the chosen ICT-based model. Even the best designed models or those that have already been proven to work in other contexts need to be tested on a small scale. Such pilots are essential to identify, and correct, potential glitches in instructional design, implement ability, effectiveness, and the like.
- The specification of existing sources of financing and the development of strategies for generating financial resources to support ICT use over the long term.
- School with limited technical support
- Lack of effective training
- Limited time
- Teacher competency

6. REFORMING HIGHER EDUCATION SYSTEM IN INDIA

ICT can be seen as a practical solution which has created a drastic change in almost every field including business, governance and education and its miracle has enabled the world to move forward very rapidly towards digital media. So, its role in the enhancement of education has become increasingly important. In the present 21st century the use of ICTs in education and its related activities like research and others are watching an unprecedented growth. This transformation can be termed as a revolution and seen in the form of a boom which has changed the pattern of disseminating education in today's era

The central and state governments have taken various initiatives for integration of ICT with education system. Since the past two to three decades, the Indian education system has been plagued by many challenges such as lack of students, poor infrastructure, lack of quality teacher, and a standard curriculum, to name a few. With the integration of ICT in schools(Higher Education), makes the schools and their education system Campari table with the international system,

where the education system will be compatible with international education standard.

India is emerging as a superpower and it cannot function without the support of ICT. The gap between demand and supply of higher education has urged the government and institutions of the country to formulate policies and initiatives so that education can easily integrate with ICT.

India has 214 universities and equivalent institutions of ten open universities. The number of students has reached the level of 6.75 million and there are 0.321m teachers in the higher education system. But the future projection suggest massive requirement of infrastructure. For more development or enrollment of students, India will need a massive new infrastructure. Both states and center are at the end of their wit for more funds of education. The state will neither be able to provide facilities nor will be able to refuse places in higher education.

ICTs help o come out from all the above problems, the human expertise was concentrated on very few areas at a time and the country was facing to find good teachers and funds. ICTs come out from with all solutions as help to provide to take lectures of expert teachers to remote area, which do not have required facilities or human resources. There is already a beginning of implantation of the policy so that ICTs can help the education sector more.

Government has taking so much initiative for the better development of education system in India such as CLASS project, in which all schools have equipped with the modern technology facility. Even the high fee charging private schools also providing the bests of technology based education. Under the programme SSA government initiated a new programme on computers in elementary schools during 10th five- year plan. Now schools have decided to set up smart classes and most of the schools have already taken it.

Various schools and engineering colleges, universities have equipped with computer facilities under **the UNIVERSITY GRANTS COMMISION**. Mostly technical and engineering colleges and universities implemented the computer system education. The centrally sponsored scheme on educational technology has provided colour television and radio- cum-cassette players to almost all elementary schools. This facility is available in secondary schools almost in all states. The country wide classroom programme has equipped all colleges and universities with television sets.

The NATIONAL OPEN SCHOOL has set up a faculty for developing digital multi-media software on education curriculum at the school level. India is also working on micro-satellites that can provide localized service on open school programme through uplinked earth stations. The universities, the government agencies – SCERT, NCERT and many more are working together to develop computer aided education to be used for both distance as well as for regular also.

The UNIVERSITY GRANTS COMMISSION has initiated a programme to provide electronic access, which will provide the best current and archival periodical literature from all over the world to the university community. Under the initiative UGC is modernizing the university campuses with state of the art campus wide network and setting up its own nationwide communication network named UGC- info net will establish a channel for globalization of education and facilitate the universities in marketing their services and development through INFLIBNET (information library network) a body of UGC primarily to automate and network the university libraries and institutions of national importance to share the process resources effectively.

7. CONCLUSION

It's now observed that ICTs going to be very popular and influence e-education system all over the world. Almost all developed countries have successfully experimented ICT for education. But there are many issues and challenges also. ICT

is the medium to explore new way of learning and teaching with very effective way. It's not a passive approach but it involves all the approach in itself. ICT also raised the principle of responsibility, participation, privacy, mutual respect and responsibility that historically provided the foundation of our education system. If educational policies and strategies are not right for the using of these technologies are not met concurrently, the potential of ICTs will not realize.

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Development Analysis on Dynamic Data from Relational or Comparative to Object-Oriented or Greedy Databases

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Abstract: *Many changes has been going on in IT for last few years. Owing to the expeditious development in this field, the requirement for invention in this field is much higher. This necessitates prominent attempt of firms to react rapidly to market considerations in order to coordinate job and carry on trade more expeditiously. A different approach has been used to retrieve the data either it is a relational or hierarchical or even network database. For this a object oriented application has to be developed. The approach indicated in this paper is database migration. Essentially, this approach comprises two tasks. In the initial task, the relational database outline is organize. The outline is translated into a well formulated and putatively apprehensible object oriented outline, that the Modern applications may conform. Subsequently, the data are migrated into an object oriented DBMS.*

The transformation process is separated into three successive degrees. In the initial degree, the relational outline is translated into an SOT outline. This initial SOT outline is then redesigned preeminent in the decent object oriented outline. Eventually, in the third degree preeminent SOT outline is translated into an object oriented outline according to the ODMG prevalent. The data migration process is generated automatically for each outline transformation degree. In order to enforce outline transformation, the idea of transformation rule is indicated. The transformation rules define elementary restructuring operations within this model

Keywords: *E-commerce, WWW(World Wide Web,)relational outline, life cycle, object technology.*

1. INTRODUCTION

Usually process deals all fields of information arrangements. In this paper, in particular, three fields are of primary concern.

Relational Databases Arrangements: RD system represents the present prevalent in technology for realizing database applications. The idea was indicated in the early seventies, and now commercial DBMS (database management arrangements) like DB2, oracle, Informix Sybase prevail the market of data persistence. A prominent body of computerized data is to be

read in relational database now a days. One major bonus of RDBMS is the maturity they has achieved in pervasive research Attempts in the last years. This permits RDMS products to be employed for great performance and mission-decisive database applications.

Object-Orientation: Today object oriented epitome prevails in modern software development. It has egressed as significant technology to ascertain software engineering attributes. Nearly all the elements of the Modern information arrangements are developed within an object-oriented software engineering event cycle. In particular, these elements include database arrangements, user interfaces, operating arrangements and applications. The degree of object-oriented software engineering comprises, amongst others, analysis, design and effectuation.

Reengineering: The expeditious alterations in IT and society force firms to rapidly react to changing considerations on a global market. This raises the difficulty of reengineering information system capitalize these technologies. Usually, two cases propelling this may be distinguished. Firstly, alterations in the internal organization of firms should be reflected in information arrangements. Secondly, owing to the emerging fundamental technologies like E-commerce, the WWW or data-ware housing, firms has to conform and modify parts of their information arrangements.

The evolutions of database technology and software engineering has hardly acted upon each other in the last decades. As a result, RDBMS and object-orientation comprise primarily different epitomes. Subsisting relational databases and object-oriented applications cannot be integrated in a unseamed manner, a difficulty that is known as impedance mismatch.

Meantime, Object Oriented DataBase Management System (OODBMS) has been indicated to support unseamed integration of object technology and data persistence, and various commercial products are available. Nevertheless, many establishments primarily abstain from utilizing OODBMS since subsisting products cannot contend with RDBMS with respect to maturity and dependability.

The approach indicated in this paper is database migration. Essentially, this approach comprises two tasks. In the initial task, the relational database outline is organized. The outline is translated into a well-formulated and putatively apprehensible object-oriented outline, that the Modern applications may conform. Subsequently, the data are migrated to OODBMS. There are various grounds why database migration worth advance investigation. Initial, database migration predicts good results than different approaches like object expressions for the upcoming grounds. Since the data are converted to objects only once, database migration primarily permits more tractability with respect to the reengineering the relational outline into a suitable object-oriented outline. Secondly, subsisting approaches for database migration do not exploit the complete potential of the object-oriented epitome, so that the preminent object oriented outline still looks relational and retains subsisting advantages and disadvantages of the relational outline. Eventually, Attempts are taken to redress the present naiveness of commercial OODBMS for some mission-crucial database applications. They are well befitted for saving data of typical such as CAD arrangements and office automation arrangements. Lately, Object-Relational DBMS (ORDBMS) has initiated to extend some object-oriented characteristics, and advance characteristics are likely to be addressed in the future. ORDBMS may be expected to extend present commercial RDBMS products. Hence, they extend the similar dependability as RDBMS. ORDBMS has the similar difficulty, as referred earlier, for OODBMS, viz. to change a subsisting relational outline in to Modern exploiting object-oriented characteristics, and to conform the database. Thus, the results present in this paper for OODBMS will also be important for the object-relational database arrangements

2. RELATIONAL DATABASE OVERVIEW.

Relational database arrangements represent the prevalent technique for realizing database applications. The primary bases of relational databases were put in early seventies, mainly in the relational data model[Cod70]. Afterward, the Entity- Relationship model[Che76] was indicated for simple yet effective simulation of relational database schemas.

3. DATA MODELS

The process of designing database outline is generally decomposed into various degrees. In each degree, a different data model is employed. Typically three levels of designs are distinguished, as shown in Figure-1: conceptual design, logical design and physical design.

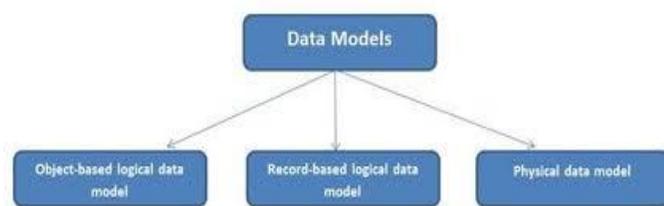


Fig. 1. Data Models

Logical design consists of mapping the conceptual outline into a logical outline that may be handled by the DBMS. The logical outline is thus expressed by means of data manipulation language. Eventually, the physical outline describes the internal storage structure of the database.

The ER model.

The Entity relationship(ER) model was introduced by Chen[Che76], and describes data as entities, relationships and attributes. An entity is a “thing” in the real world with an independent existence. Each entity has attributes- the particular properties that describe it.

The relational data model is one of the traditional data models like the network model and hierarchical models. These has been quite successful in developing the database technology for many traditional data base applications Relational database design follows a waterfall-oriented approach. Firstly, a Conceptual outline is made, generally by means of ER model. Such a conceptual outline describes the universe of disclosure as a set of entities that are characterized by a number of attributes. In addition, relationship amongst entities may also be described. In the second stage of relational database design, logical design, a relational outline is made in terms of a data resolution language that may be handled by a DBMS. Sometimes, specific constricts in the ER outline such as generalization relationships, may arouse various alternative constructs in the relational outline. Although parts of the specified semantics in the ER outline may get lost in the relational outline, the latter may be enhanced by totalling restraints or expressions.

Object-oriented concepts are marginally older than relational concepts. Nevertheless, it took a long time for object-orientation to accede the primary stream. In the late seventies, language Smalltalk-80 was introduced by Xerox[GR89]. Parallel to the development of the object-oriented programming languages, conventional languages were continued with concepts for realizing abstract data types and information hiding, in order to satisfy Modern necessities of software engineering. Examples of such languages are Ada and Modula. Nevertheless pure object oriented languages were regarded the best choice for integrating Modern software engineering necessities, supporting reprocess, maintaining software, sustaining the object oriented software engineering life cycle [ABD+89].

4. SPECIFICATION OF OBJECT PERFORMANCE

From the relational point of view, there is no reason to explicitly model composite objects in the relational outline. It is sufficient that composite objects may be extracted from the database, where a view may be described containing composite objects utilizing the query referred above. In a object-oriented design, various object specific operations may be specified, for composite objects. In an object-oriented design, nevertheless, object specific operations for points may ideally be implemented as methods of a class point.

The primary contribution of this paper has been to demonstrate that relational and object-oriented database design follow different design strategies and consequently result in structurally different database schemas. There is no ubiquitous mapping scheme amongst relational constructs on the one side and object-oriented constructs on the different. In particular, this concerns the primary construct relations, tuples, classes and objects.

Relation and Classes: The examples demonstrated that not every relation in a relational outline corresponds to a class in a corresponding object-oriented outline. Conversely, not every class present in a object-oriented outline is derived from a corresponding relation in a relational outline.

Tuples and Objects: Not every tuple in a relational database is represented as an object-oriented database. Conversely, not every object is derived from one specific tuple. Grounds for this are the deficiency of conceptual simulating constructs in relational database design, and the possible specification of the object life cycles.

The contributions of this paper from the necessities for the migration approach. This paper demonstrate the result of these different design strategies, that is that converting a relational outline to a corresponding object-oriented outline which is a non-trivial task. Consequently, the migration algorithms should be effective enough to support such conversations.

5. MIGRATION TO OBJECT TECHNOLOGY.

The extensive acceptance of object technology in software engineering has propelled the combination object technology and data persistence. Currently, the attempt to smoothly integrate relational data and object technology is especially eminent when Modern object-oriented applications has to access subsisting relational databases. Relevant approaches are referred and the advantages and disadvantages of each of them are compared. Database migration, the subject of this paper, is one of the approaches. Usually, two different approaches may be distinguished. Firstly, the data is retained in relational databases. The simplest resolution, a entryway amongst a relational and an object-oriented database.

Database migration is the second approach, in that the RDBMs is completely substituted by an object-oriented one, and both outline and database should be migrated. The decision to apply a particular migration scheme for a certain database system depends on various pragmatic restraints.

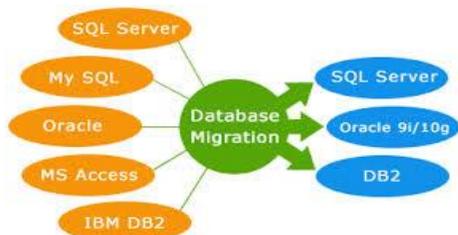


Fig. 2. DB Migration

The transformation in principle, every table of the relational outline is mapped into a class and foreign fundamental restraints are mapped into reference attributes. Consequently, every tuple of the relational database is represented as an object in the object view.

6. OBJECT RELATIONAL MEASUREMENT

The transformation of object-oriented outline into a relational alone, when utilizing objects for applications and relations for persistence. Since both object-relational mapping and relational-object mapping share the task of specifying mappings amongst relational constructs and object-oriented constructs, various object-relational mapping product also support the opposite direction. Research projects in this field are Penguin[KH93] and object Driver[Leb93].

The Construction of object expressions is not simply the opposite task of the object-relational mapping process, that may be executed automatically. In the case of object-relational mapping, the object-oriented outline has been made by forward engineering. When creating object expressions the relational outline should undergo a reverse engineering process.

The algorithm for realizing the insertion operation is non-trivial. The index value of the tuple and the insertion point where the Modern element is inserted should be calculated. Then, all the elements behind the insertion point should be shifted one location to the right.

For combinational relational databases and object technology has been referred. In principle, two different strategies exist: object expressions over relational database and database migration. Although both strategies appear to very different, often pragmatic restraints determine that migration scheme to use. As regards, object expressions, various approaches has been indicated and various commercial instruments already exist. Although this scheme exhibits serious problems, At least for performance grounds, it represents the present trend of migration to object technology.

7. SEMANTIC UPGRADE

Semantic upgrade is the task of gathering additional semantic information that is not explicitly available from the relational database system. This task is also known as reverse engineering, that stresses that the result of the semantic enrichment process may be represented through a conceptual outline. Whereas the process of database design is called forward engineering, reverse engineering may be regarded the opposite process, that is, there construction of conceptual outline out of an subsisting database. Reverse engineering is not only essential in the field of information migration, but of high importance for information arrangements reengineering usually.

There are various grounds for employing reverse engineering to databases, besides a subsequent database migration, as regarded in this context. During the design and maintenance of the logical database outline, some domain semantics might not

be grabbed anymore. Thus without owning a conceptual view of the database it is difficult for users to understand the semantics of the database and retrieve data correctly. The need for conceptual schemas turns more essential for redesigning subsisting databases when Modern application necessities are considered. Another field of application is database integration, that is best executed at the conceptual degree[BLN86]. Eventually, the semantics of the database should be extracted when switching to another data model. This is required for both object expressions and data migration.

8. OUTLINE TRANSFORMATION AND DATA MIGRATION.

Various approaches has been indicated for outlining transformation from relational outline to object oriented ones. Two approaches for database emigration are worth referred. In [AYCD98] an algebraic database migration approach is indicated for that a prototype also exists[AY98]. The focus is on optimizing the migration process and physical or organization of the database. Nevertheless, the outline transformation process does not support flexible transformations. In contrast to this, the approach in [Fah96] exhibits more flexible outline transformations, but the preeminent migration operations cannot be optimized. In particular, various transformation rules are indicated for both the relational and object-oriented model. Furthermore, the instance mapping should be applied after each individual outline transformation operation separately, and is expressed on a rather information degree. As a result, the database migration process cannot be optimized. Some different approaches propose useful outline transformations in both, the relational and object-oriented[BP96] context. In relational database design, outline transformations has been employed for reverse engineering[HTJC93b] or quality improvement[BCN92], in order to reduce efficiencies such as de normalization or optimizations. In object-oriented design on different hand, outline transformations has been employed for outline refinement[BP96].

The support of outline development is not a primary requirement of these data models. Subsisting algebras, like relational or object-oriented algebra are one manner to describe a conventional foundation. The algebras manner may be employed in different ways: as a conventional semantics of the data and a query language itself. Besides optimization, the necessities for the SOT data model and algebra differ from subsisting approaches. Therefore there are not suitable for outline transformation and data migration, and a Modern approach is presented in this paper.

The primary purpose of SOT data model is the support of outline restructuring and data mapping. Outline restructuring is the act of modifying the SOT outline. Data mapping alterations the database state, such that the preeminent database is consistent with the modified SOT outline. Outline restructuring and data mapping are implemented by algebra. For simplicity, outline and data share the similar algebra.

Various grounds exists why neither the relational nor the neither object-oriented nor any different subsisting data model fulfill the necessities of database migration. The primary reason is that the purposes of these data models are different from ours. Most subsisting algebras serve as theoretical foundation to describe the conventional semantics of data and of a query language.

More precisely, the relational model lacks the individuality aspect and the support of typical structures. Individuality is simulated through fundamental attributes whose uniqueness should be maintained by the user. As regard typical structures, aggregates and sets may be simulated by additional relationships, but list or array structures cannot be expressed directly. On the different hand, the object-oriented model is too restrictive in object individuality and inheritance handling. Outline restructuring cannot easily be propagated to the data degree. The interface of an object or its class membership (generally) cannot be changed once it is made. As regards object individuality, there may be no external influence on creating Modern object identifiers as will be demonstrated afterward. Concerning cardinality, the “not null” and “candidate fundamental” restrictions, known from the relational data model, do not exist.

Conceptual model like the ER model, that are regarded. The migration frame job, the primary originality of the transformation process lies in the ability for flexible outline redesign. Input of the transformation process is a relational outline and a set of tables. On the object-oriented side, a outline expressed in the ODMG interface notation and data expressed in the ODMG object interchange format (OIF) is targeted. This manner the approach is not dependent on the concrete target DBMS.

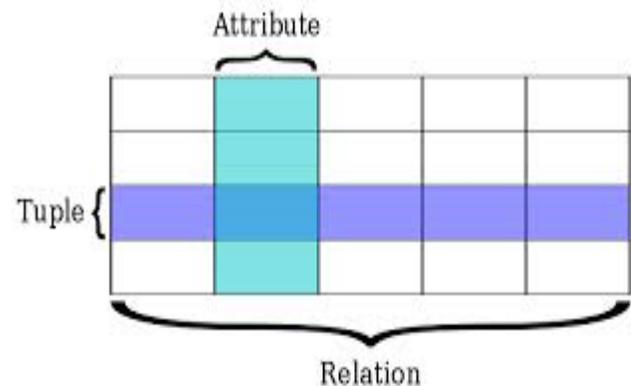


Fig. 3. Data Transformation

The data migration process is generated after completing these three steps of outline transformation.

9. CONCLUSIONS

Subsisting approaches for migration do not exploit the complete potential of the object-oriented epitome so that the preeminent object-oriented outline still looks rather relational and retains the advantages and disadvantages of the relational

outline. Therefore, one of the goals of this approach is to support outline transformation into an decent object-oriented outline s obtained by forward engineering, rigorously utilizing an object-oriented design method. In the initial part of the paper, the fundamental differences amongst relational and object-oriented database are referred. For the effectuation of the database migration process an intermediate data model is indicated that permits defining both, outline transformation and data migration. This data model contains all object-oriented simulating constructs and supports flexible outline transformations. Furthermore, algebra is indicated for conventional resolution of the data migration process.

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Quality Perspectives of Online Trading: National International Outlook

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Abstract: This paper introduces a model utilized for surveying the quality and dependability of internet business frameworks by comparing the functioning of e-commerce in India with that of the rest of the world. The paper discusses the benefits and limitations of e-commerce in India and gives analysis of various e-commerce websites and companies operating in both India and the rest of the world.

1. INTRODUCTION

The Internet has become an essential business platform for trading, distributing and selling products between organizations, among organizations and consumers, and even between consumers. This has brought e-commerce to an entirely new level [1], [2], building on the role of EFT and EDI in the past [3], [4], [5]. Trust is a fundamental principle of every business relationship [6]. As Quelch and Klein [7] noted, “trust is a critical factor in stimulating purchases over the Internet.” Keen [8] argues that the most significant long-term barrier for realising the potential of Internet marketing to consumers was the lack of consumer trust, both in the merchant’s honesty and in the merchant’s competence to fill Internet orders. E-Commerce or Web based business is the movement of purchasing or moving of items on online administrations or over the Internet. It draws on innovations, for example, portable business, electronic finances exchange, store network the board, Internet showcasing, online exchange handling, electronic information exchange (EDI), stock administration frameworks, and computerized information accumulation frameworks.

2. TYPES OF ECOMMERCE MODELS

There are four primary kinds of internet business models. As explained in figure 1

1. Business to Consumer (B2C):

At the point when a business pitches a decent or administration to an individual shopper (for example you purchase a couple of shoes from an online retailer).

2. Business to Business (B2B):

At the point when a business pitches a decent or administration to another business (for example A business moves

programming as-an administration for different organizations to utilize)

3. Customer to Consumer (C2C):

At the point when a customer pitches a decent or administration to another purchaser (for example You offer your old furniture on eBay to another shopper).

4. Buyer to Business (C2B):

At the point when a buyer pitches their very own items or administrations to a business or association (for example An influencer offers presentation to their online gathering of people in return for an expense, or a picture taker licenses their photograph for a business to utilize).

Different types of E-Commerce

	Business (organization)	Customer (individual)
Business (organization)	B2B (e.g TPN)	B2C (e.g Amazon)
Customer (individual)	C2B (e.g Priceline)	C2C (e.g eBay)

Fig. 1. Types of ecommerce

3. MERITS OF E-COMMERCE

– **Economical and Lower Cost:** E-trade is a powerful mode of working together. An individual doesn't have to set up a business premise. Dissimilar to physical business condition, in web based business there is no compelling reason to set-up premises.

– **Better Customer Service:** E-business guarantees better and faster client administration. Online client administration permits faster fulfillment of client needs and making the client more joyful.

– **Better Comparative Analysis:** E-trade permits a superior near examination of various items. This is on the grounds that today, pretty much every item is accessible on the web.

– **Round the clock Availability:** E-Commerce permits 24×7 accessibility of items and administrations. An individual can execute

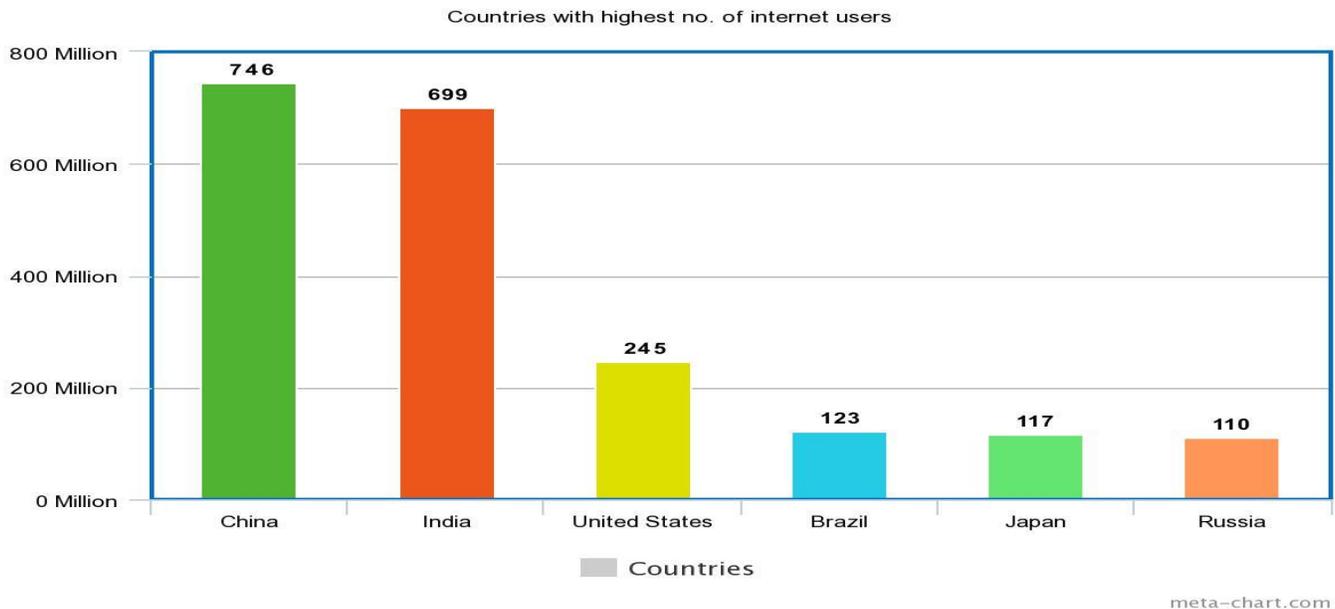


Fig. 2. No. of internet users

anytime of time. Online business has hence killed the confinement of time.

4. DEMERITS OF E-COMMERCE

– **Technological Limitations:** Technological impediments of online business have confined a substantial number of individuals from utilizing internet business. Web has not contacted the lives of each normal man.

– **Unsuitable for transitory things:** E-trade isn't reasonable for short-lived merchandise and enterprises. Transient merchandise requires appropriate capacity and warehousing. For such things individuals dependably lean toward customary mode. For acquiring short-lived products like nourishment things individuals by and large lean toward ordinary shopping mode.

– **Security:** Security keeps on being an issue with regards to web based business. Online organizations are not trusted by the clients as there have been numerous instances of cheats and defective installments.

– **E-trade isn't free:** E-business isn't free. As indicated by industry reports, numerous independent companies are battling a losing fight before the huge business.

– Ineffective Customer Relations:

A key challenge for e-commerce organizations is to understand customer requirements and to develop their Web presence and

back-office operations accordingly[1]In this manner, web based business is something that requires sharp methodology

5. NATIONAL E-COMMERCE

As of June 2017, India positions second with regards to dynamic Internet clients. The web has a great deal to offer, one of it being online Shopping as the vast majority would call it. This contends very intimately with customary retail shopping which has originated before internet shopping as long as we can review. Since webbased shopping is still in its earliest stages, it makes numerous individuals question its authenticity. For a nation like India, the Internet entrance is still at a unimportant 26% yet it's developing at a stunning rate which will clearly give a lift to web based business.

The presentation of Reliance Jio has been particularly compelling in the sudden ascent of web clients in India. This has furnished online merchants with an open door over their customary partners

Advantages of Online Shopping

1. A Wide Selection of Products

You can pay off nearly anything off the web nowadays! This is a result of driving internet business sites like Flipkart, Amazon, SnapDeal and TataCliQ which list items from different merchants spread the nation over. This enables sites in that capacity to list a wide determination of items including

Home Appliances, Smartphones, Clothes, Accessories, and Health related items.

2. Aggressive Prices

You may have seen similar items accessible for a lot less expensive on online locales. This is conceivable in light of the fact that online dealers swim off a great deal of overhead expenses including shop lease, representative costs and others. This advantage, thus, is exchanged to the end customer as far as lower evaluating.

3. Limits and Bundled advantages

With the online market warming up, each ecommerce site is paying special mind to steadfast clients who might come back to make another buy. With an end goal to accomplish this, you might be offered limits, purchasing plans or even packaged offers while purchasing on the web.

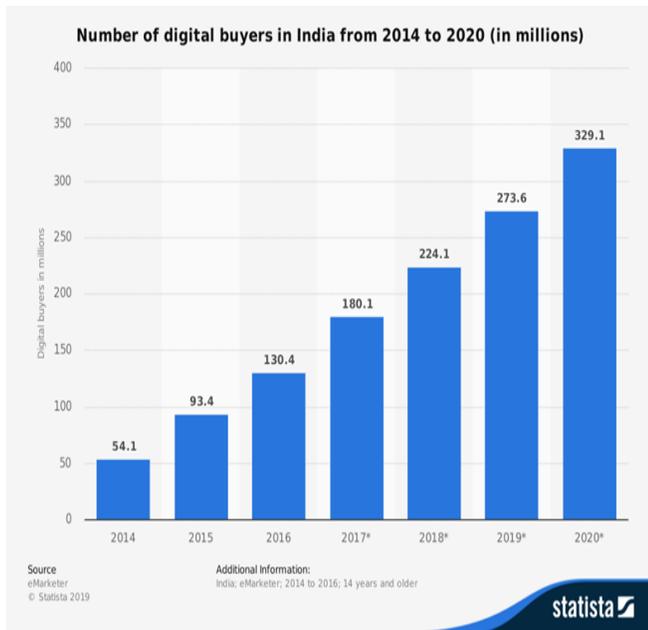


Fig. 3. No. of digital buyers in India

4. Simple Returns

Have you been on the bleeding edge of attempting to supplant something you purchased at the nearby store and the seller straightaway disregards your reality? Sadly, this happens as a general rule. Ideally is the retailer pointing you towards the administration focus on the off chance that you have bought an electronic gadget. This is to a great extent because of the way that most disconnected shops are affiliates and wouldn't prefer to heap up broken stock. Fortunately, this isn't the situation when you buy things on the web.

5. Accommodation and every minute of every day Availability

While buying on the web, you can peruse and arrange items from the web whenever of the day, from anyplace, on any gadget, to be conveyed to wherever with a legitimate post

code. The majority of this while sitting at the solace of wherever you are, directly through your cell phone.

Limitations of Online Shopping

1. Go overboard shopping

With brands barraging each movement you could do on your cell phone or PC, be it as ostensible as looking through your Instagram feed or requesting nourishment, they have your eminent consideration. It's hard to believe, but it's true! You may overlook the ads for it is highly unlikely you can dispose of every one of them, yet intuitively they will get to you. As referenced before, these important promotions can keep appearing on your gadgets for a long time. In the long run, you will consider opening one and arriving up at the checkout page. This item will at long last land at your home and will fill no genuine need. The reason has been served. You presently have another totally unimportant item lying around in your home.

2. Initial cost – The cost of creating/building an e-commerce application in-house may be very high. There could be delays in launching an e-Commerce application due to mistakes, and lack of experience.

3. User resistance – Users may not trust the site being an unknown faceless seller. Such mistrust makes it difficult to convince traditional users to switch from physical stores to online/virtual stores.

4. Security/ Privacy – It is difficult to ensure the security or privacy on online transactions.

6. INTERNATIONAL COMMERCE

Cross-fringe internet business is blasting. Customers are progressively purchasing on the web and are progressively pulled in to outside brands and retailers. Cross-outskirt retail is, in this way, an extraordinary open door for brands and retailers searching for development. In any case, entering this market isn't simple and requires a ton of preliminary work.

One of the inquiries that you ought to ask ahead of time is: Which channel offers the best open doors in the objective market? Do you begin with your very own limited variant of the online shop or do you test commercial centers like Amazon, eBay, Tmall (Alibaba) or JD?

Beginning with universal web based business by means of the commercial center isn't beneficial in light of the lower starting expenses. There are likewise nations where commercial centers are beneficial due to client inclination. In China, where Tmall and JD are the market heads, online retail happens in commercial centers essentially. Indeed, brands like Burberry, Estée Lauder, Swarovski or RayBan, and others have opened stores on Tmall. Likewise, retailers increase their client base by means of global commercial centers.

For global web based business ventures, it might be a great idea to enter a commercial center to pick up a dependable

balance, particularly on the off chance that you don't have a huge spending plan at first.

We've outlined the preferences and burdens of a commercial center for universal web based business ventures:

ADVANTAGES

1. Less exertion and hazard
2. Unsurprising expenses
3. Distinction and reach of commercial centers
4. New markets can be tried
5. Quick test consequences of various estimating procedures
6. Low specialized passage boundaries

DRAWBACKS

1. Client information has a place with the commercial center
2. Less power over your very own image understanding
3. Reliance on the commercial center as far as plan and administration
4. Client desires must be served in accordance with the commercialcenter: Service request, conveyance times, returns
5. Adjustment of interfaces and readiness of item information as indicated by commercial center details
6. Tantamount items are liable to extraordinary challenge and value weight



Fig. 4. NO. OF BUYERS GLOBALLY

E-commerce Websites Indian vs International

TOP 10 E-COMMERCE WEBSITES (INTERNATIONAL)

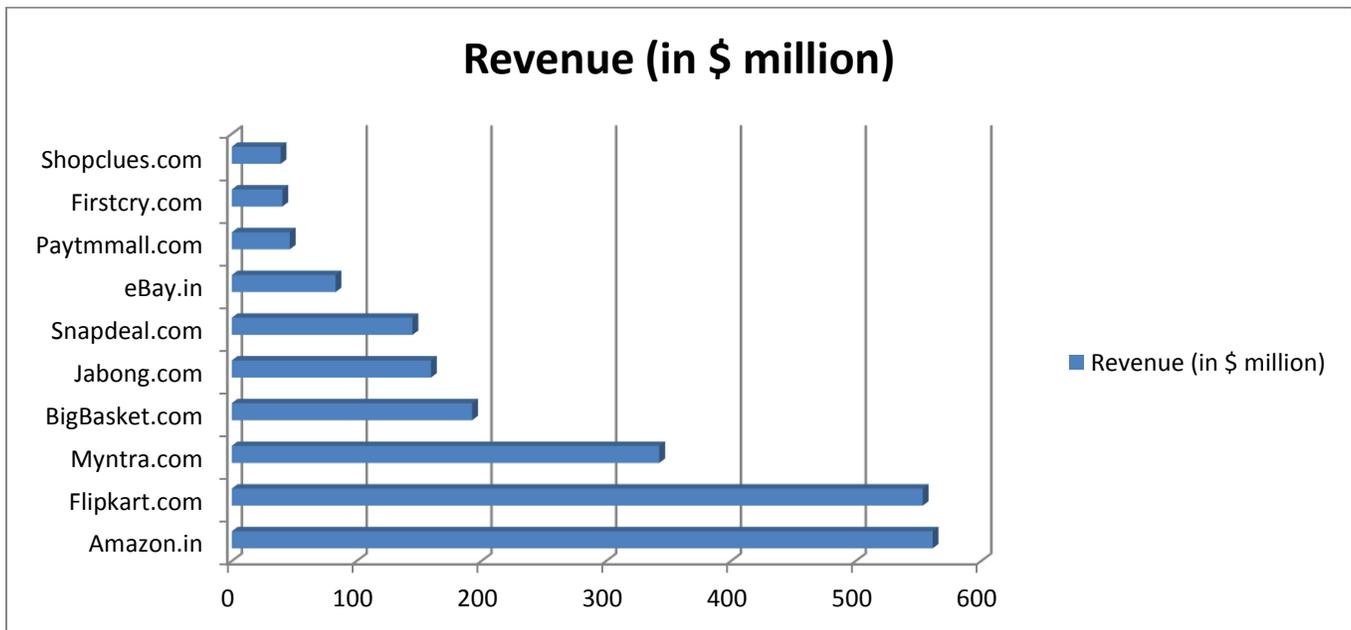
Rank	Companies	Revenues Through E-commerce(B\$)	Growth Rates
1	Amazon	108	19%
2	JD.com	37.9	40%
3	Alibaba	22.99	42%
4	Walmart	20	37%
5	Booking Holdings	12.68	18%
6	Shopify	6.73	73%
7	Rakuten	8.77	21%
8	Otto	8.68	11%
9	eBay	9.56	7%
10	Asos	2.73	33%

TOP 10 E-COMMERCE WEBSITES (IN INDIA 2017)

Rank	Name of Company	Revenue (in \$ million)
1	Amazon.in	561.4
2	Flipkart.com	553.5
3	Myntra.com	342.7
4	BigBasket.com	192.7
5	Jabong.com	159.7
6	Snapdeal.com	144.9
7	eBay.in	83.2
8	Paytm.com	46.5
9	Firstcry.com	40.6
10	Shopclues.com	39.2

Ranking Methodology:

1. The leading ecommerce and online shopping brands are taken.
2. Parameters like revenues and growth are taken and give weightings of 90% and 10% respectively.
3. A final composite score is calculated and the rankings are derived.

**Fig. 5. REVENUE IN INDIA****Ranking Methodology:**

The ranking is based on revenue earned by the top E-Commerce Companies in India.

7. CONCLUSION

The E-Commerce Market of India has great potential because the number of internet users is expected to increase to 850

million by Year 2020 as compared to around 700 million currently. So the E-commerce market expected to grow at an explosive rate. The E-Commerce Companies are already planning to tap the vast market in India. Though Retail Shopping is more popular now but online shopping is getting popular day by day as can be seen in the increasing revenues of E-Companies in India.

The Global E-Commerce market will experience more growth in developing countries and less growth in developed countries.

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A Study of Product Sentiment Analysis based on Customer and Critics Comments

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Abstract: *The paradigm shift observed in the preference of customer to purchase any product online rather than going for offline shopping and comparing the product details by themselves. Customers are dependent on others comments, reviews which they share online to ascertain themselves before making a purchase. Hence every other E-Commerce company is coming up with some new marketing ideas to lure their customer. E-Commerce companies have started taking review comments from critics who are most popular online and whose comments are read by other users. In this paper we have done comparison of Review comments from customers and critics. For the purpose of study, we have focused on the reviews related to Redmi Note 5 Pro, the most popular mobile phone launched by company. We have gathered reviews of customers who have purchased the mobile and have provided feedback related to the product and review comments of critics. The result shows a positive trend towards purchase of Redmi Note 5 Promobile phone.*

Keywords: *Sentiment Analysis, Word Cloud, Opinion Mining*

1. INTRODUCTION

Sentimental Analysis often referred to as Opinion Mining is the process of computationally identifying and categorizing opinions expressed in a piece of text, especially in order to determine whether the writer's attitude towards a particular topic, product or service is positive, negative, or neutral.

It refers to the identification and classification of the viewpoint or opinion expressed in a text span; using information retrieval and computational linguistics. The opinion expressed on the topic is given significance rather than the topic itself.

Generally speaking, sentiment analysis aims to determine the attitude of a speaker, writer, or other subject with respect to some topic or the overall contextual polarity or emotional reaction to a document, interaction, or event.

Sentiment analysis is an alternative research technique for collecting and analyzing textual data on the Internet. Sentiment analysis is a data mining technique that systematically evaluates textual content using machine learning techniques. Through sentiment analysis marketers, manufacturers and organizations collect rich data on attitudes and opinion in real

time, without compromising reliability, validity and generalizability. They also gather feedback on attitudes and opinions as they occur without having to invest in lengthy and costly market research activities.

With the help of wireless technology, the Internet becomes a valuable place for online learning, exchanging ideas, reviewing a product or service. Reviews in the Internet could be in millions for a product or services which make it difficult to track and understand customer opinions. Sentiment analysis is an emerging area of research to extract the subjective information in source materials by applying Natural Language processing, Computational Linguistics and text analytics and classify the polarity of the opinion stated.

This process enables the organizations to factor the response and reception of their products and services by the people within the market. It helps them to analyze whether an investment was a success or not.

It also helps the people in making a correct decision while purchasing a product or a service by comprehending the response and reception of others who purchased the same and helps them to realize whether an organization is indeed true to its claims.

In this paper, we are doing a case study of various reviews of people on the device Redmi note 5 Pro launched recently.

- Our aim is to find the sentiments of people purchasing the product, as well as considering to buy the product using various reviews and opinions posted on different online platforms.
- This process of opinion mining enables us to factor the success of a product in current markets with the help of public response to it.
- The two main entities that benefit from this process are the organization selling the product and the customers purchasing it.
- We discussed the various aspects of our research through this project and found the result of the analysis of sentiments done on the collected data.
- The results have been generated as sentiment graphs and word clouds for easy analysis and comprehension.

- We have also compared the opinions of actual users of the product to that of various tech reviewers who are publishing their opinions about the product on their blogs, to see whether or not we can find a contrast between the user's response and the critics' response.

2. RELATED RESEARCH WORK

D Virmani et. al. [1] in their research paper proposes the sentiment analysis in collaboration with opinion extraction, summarization, and tracking the records of the students. The paper modifies the existing algorithm in order to obtain the collaborated opinion about the students. The algorithm is implemented on the basis of score assigned to each sentiment word in the database. The resultant opinion is represented as very high, high, moderate, low and very low emotion/sentiment. The paper provides mechanism to make the existing system more efficient and reliable.

N. Jebaselli et. al. [2] in their research paper have explained sentimental analyses via opinion mining. The paper elaborates on subjective and objective opinion mining where reviews and text comments can be more efficiently and reliably be incorporated in the system. It collects rich data that is more reliable and real time across multiple domains. It provides more in depth knowledge about the system and enables us in better decision making.

S. Mukherjee et. al. [3] in their research paper elaborates on feature specific expression of opinion in product reviews. The method is implied by identifying set of features in reviews and extracting opinion expression about those features by exploiting their source associations. It is based on one time learning of domain independent parameters. The system is very efficient with a few drawbacks with domain dependent implicit statements.

X. Fang[4] in his research work focuses on the problem of sentimental polarity in opinion mining and illustrates better mechanism to rectify the same. Experiments for both sentence-level categorization and review-level categorization are performed with promising outcomes. Software used for this study is scikit -learn an open source machine learning software package in Python.

The paper also provides future scope for improvement in the system.

A. Bhatt [5] in his research paper analyzed the problems that exist in rating system where product reviews are affected by the service reviews because of no bifurcation. These problems can be solved by using the above method where we can draw out a general bifurcation between Product reviews and Service reviews by applying it on the system. The paper also quotes an example of a product iPhone 5s where the same problem exists and has been rectified by using the above mechanism.

R. S. Tshwane[6] focusses on how the research by social media has affected the daily life of students. A set of questions

were asked and interviews were conducted to collect the data which was required for analyzing the effect on the social and academic performance of students. Some questions were semi-opened-questions and these questions had no restrictions how they should be answered providing the participants with opportunity to write what they couldn't have written in closed-end-questions.

E. Haddi [7] in his Research Paper has performed sentiment analysis by focusing on some words and their frequency in the document. The terms that appear often in the whole document but seldom in a collection are more informative stating the meaning of the document in comparison to terms that just appeared once. Also, the position of words in a document can completely change the meaning of a sentence.

In a similar study, A.Y. Yousif [8] analyzed the sentiments of the users using keywords to analyze positive and negative words and finally come up with the overall sentiment.

S. Dabhade [9] in the research paper illustrated the research area of Sentiment Analysis on movie reviews or product reviews like android apps. Data is collected from various sources – review sites, blogs and forums or social networks. This data is analyzed using natural language processing system or machine learning approach after the data is filtered through a parser or spell checker.

D. Bouhnik [10] et. al. in their work primary collection of data was done at places in the University where high number of students were around liking dining area, sports arena libraries. Students were asked to complete a questionnaire. This research helped to find out the primary feature of WhatsApp that was used by students and how effective is WhatsApp to their studies and social life

3. METHODOLOGY

In this research the following methodology has been adopted and it is shown in the Figure 2. It comprises of four phases:

4. DATA COLLECTION & EXTRACTION:

We collected more than 700 reviews in MS Excel for our considered device, i.e., Redmi Note 5 Pro. The reviews were collected from various platforms such as e-commerce [Flipkart], blogs [GSM Arena] & social media websites [YouTube] within the period of one month after the launch of the product. It included users' opinions, feedbacks and even complaints. Our aim was to gather the maximum amount of correct and relevant data for our sentiment analysis software so as to derive accurate and realistic results.

We also collected the reviews of some of the renowned publishers of the tech industry through their blogs to be analyzed along with the customer reviews. Here we wanted to compare the critics' reviews to that of the public opinion.

6. SENTIMENT ANALYSIS PROCESS:

After this, the cleaned data went through the actual process of Sentiment Analysis., the reviews were imported from Excel, processed using built in libraries of R language present in the software and converted to Word Clouds & Sentiment Graphs as outputs using R module in the existing software program. To generate the results R language libraries have a rich inbuilt lexicon where a single word like awesome has multiple sentiments linked to it like : Happy, Joy, Positive etc.

The following steps were performed by the sentiment analysis program:

- **Polarity Words Extraction:** Polarity words from the considered data were identified. Then, polarity words were compared with the already existing dictionary.
- **Comparison:** Polarity words identified in above test, after comparisons, were categorized into positive (trust, surprise, joy) or negative (anger, disgust, fear) sentiment types.

7. RESULT GENERATION

The output of the analyzed data by the sentiment analysis process was in the format of two main results:

Word Clouds: Depicting prominent and frequently occurring adjectives or nouns giving us the impression of which words were used more frequently by the users to convey their opinions.

Sentiment Graphs: Depicting all 10basic sentiments of anger, anticipation, disgust, fear, joy, negative, positive, sadness, surprise and trust on X-axis v/s the number of the reviews on the Y-axis giving us the most recurring sentiment per review to determine overall opinion of the users.

8. RESULT ANALYSIS

Finally after obtaining the outputs, we draw the following conclusions from our result:

- Which words were most prominent in the word cloud and why?
- Which sentiment was the most experienced per review and why?
- Was there any stark contrast between the critics' and user's reviews?
- Finally what was the public reception of our considered product and whether or not we can predict its success?

9. RESULTS

WORD CLOUD – USER:



Fig. 3 Word Cloud of User Comments

MOST PROMINENT WORDS AND THEIR SIGNIFICANCE ACC. TO USER:

- **PHONE:** This is the subject/technology in consideration, hence majority of the reviews focus on this word.
- **GOOD:** The second most prominent word of the word cloud tells us that the maximum number of users consider this device to be a GOOD product.
- **BEST:** The third most prominent and recurring word of the word cloud depicts that, the users consider the product to be one of the best currently available in the market.
- **XIAOMI, REDMI, NOTE & PRO:** Most users are discussing about the manufacturer and model of the product hence increasing the occurrence of these nouns.
- **ADJECTIVES:** Awesome, Great, Nice, Superb, Like & Love etc. are some of the most frequently used adjectives to describe the device. The amount of adjectives used by the users is greater than that of the critics depicting users to be heavily dependent on their sentiments.
- **FEATURES:** Display, Processor, Battery, Quality, Design & Price etc. are some of the most discussed features of the product.

Hence, as per the users - word cloud, we can see that the various reviews on various platforms by the users mostly harbor positive adjectives and little to none negative adjectives are present. This shows that as far as the user reviews go, majority of them consist of sentiments in the positive domain. It is also evitable by the word cloud that the user reviews are more inclined towards discussing their positive experience rather than the individual technical features.

As it is evident by the sentiment graph, maximum reviews showed positive sentiment [85%] followed by trust at [60%]. This proves that the users are very optimistic about the product and had faith in the product too. The least prominent sentiment was Disgust [8%] and even the overall negative reviews were around 1/3rd [34%] of the total thus indicating that the maximum number of user reviews regarding the considered product are positive. Although one may note that sentiments such as anticipation [55%] do not specify a large amount of negative opinion as anticipation can be considered both positive and negative depending on the situation.

SENTIMENT GRAPH – CRITICS:

The scaled total count of published reviews considered for this project was around 100 [more than 20 reviews] for which following sentiments were observed. A single review can contain multiple sentiments as one adjective can represent multiple emotions:

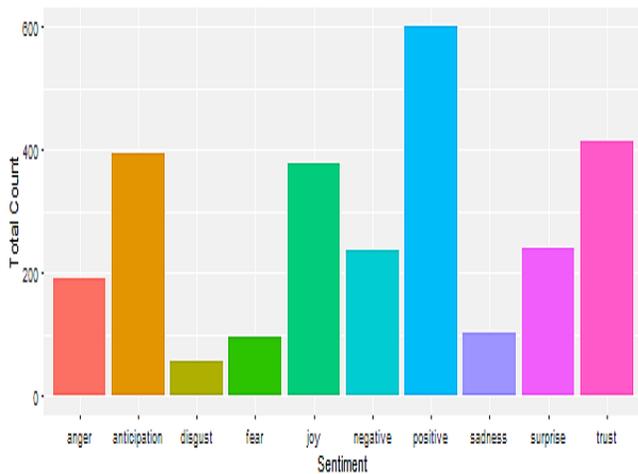


Fig. 6: Sentiment Graph of Critics Comments

- **POSTIVE:** Majority of the reviews, i.e., about 100% were positive in nature.
- **TRUST:** About 64% showed signs of trust towards the product.
- **ANTICIPATION:** More than half of the reviews, i.e., 37% showed signs of anticipation. Please note that anticipation can be both negative and positive sentiment. (+ve/-ve)
- **JOY:** About 32% of the people experienced joy after using the product.
- **NEGATIVE:** Around 33% of the reviews were negative in nature.
- **SURPRISE:** Around 16% of the users were surprised by the product.
- **ANGER:** About 22% of the reviews show signs of anger.
- **SADNESS:** 8% of the users were sad with the product.

- **FEAR:** 12% of the reviews expressed fear of some sorts.
- **DISGUST:** A small fraction of reviews showed signs of disgust, i.e., 11%.

As it is evident by the sentiment graph, all the reviews showed some positive sentiment [100%] followed by trust at [64%]. This proves that the critics are highly optimistic about the product and they also had faith in the product too. The least prominent sentiment was Disgust [11%] and even the overall negative reviews were exactly 1/3rd [33%] of the total thus indicating that the maximum number of critics’ reviews regarding the considered product are positive.

USERS V/S CRITICS:

Using the above given word clouds and sentiment graphs we can derive certain conclusions:

- Both Users and Critics have positive sentiments towards the product.
- There is NOT much difference between their opinions.
- The number of adjectives present in user reviews is higher than that of critics’ reviews indicating higher emotions and sentiments towards the product. This is line with what is expected from a user, to show more sentiments in their opinions and focus less on the technical jargons.
- The number of technical features and their analysis done in critics reviews are higher than that of user reviews indicating their responsibility to provide accurate and reliable reviews for the user with necessary technical comparison and individual feature analysis. This is line with what is expected from a reviewer/critic, to provide with a comprehensive and trustworthy review of a product which other users can look forward to for any guidance.
- For the users, Display, Design and Price of the product were very important and they considered them to be the Good or Best features of the device.
- For the critics, Camera was a major focus of the device which they considered to be Good or better than the previous iterations.
- Thus, the user reviews show that they are happy with the device and have an overall positive opinion for the same.
- Similarly, the Critics reviews show that they trust the brand and the product and will recommend the device to other users.

10. CONCLUSION

- As depicted by the sentiment graph, the maximum number of the reviews were positive in nature. Though there is quite a variation in sentiments of the users, still it is noted that a single review may contain multiple sentiments. Users may have an overall positive experience with the device but may face few minor issues, which in turn will be

expressed in their review. The polarity of a review as a whole may be positive but it can still contain other sentiments.

- But the word clouds generated indeed depict that most reviews contain recurring positive adjectives in turn validating the positive reception of the product by its users.
- Hence using Sentiment Analysis we were able to determine that majority of the users who purchased the product REDMI NOTE 5 PRO were happy with the product but did face certain inconveniences prompting the higher amount of negative sentiments.
- This also gives us an insight about the success of the product in the current markets. Here we can predict that the product will be highly successful and will be sold in large quantities as both the users and the critics are happy with it.
- Thus, Sentiment Analysis of the product reviews of Redmi Note 5 Pro was a successful endeavor and we might be able to extend this project in future to determine the most suitable market for the sale of the product, help to prevent/eliminate future design flaws by analyzing the opinions of users on previous products and even predict the sales figures or success of future products using Artificial Intelligence.

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Quality Assurance and Leadership

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Abstract: *Quality is much used and least understood term. It can be understood as a continuous journey from ‘zero defect’ to ‘fitness for purpose’. Quality in higher education means the educational process is such that it ensures students achieve their goals and thereby satisfies the needs of the society and help in national development. Leaders play significant role in maintaining the quality as they establish unity of purpose and give direction to the organization. Their responsibility is to create an internal environment that can facilitate achievement of the organization’s objectives.*

Keywords: *Quality, Quality Assurance, Leadership*

1. INTRODUCTION

Quality can be defined as a degree to which a set of inherent characteristics fulfils requirement whereas quality assurance is a part of quality management focused on providing confidence that quality requirements will be fulfilled. Quality assurance which consists of obtaining information about performance and based on an analysis of performance in any given situation, leads to modification in behaviour; directly through educational and motivational activities, and indirectly, through adjustments in system design.

Leadership establish unity of purpose and direction of the organisation. They should create and maintain the internal environment in which people can become fully involved in achieving the organisation’s objectives.

The Importance of Quality Assurance

Quality and quality assurance, along with autonomy, are important elements of a higher education system. Quality in higher education is a utopian concept to certain extent. Quality assurance is equally complex phenomena and there are diverse approaches to it across the globe. It is an important characteristic of the outputs of higher education, reflected in characteristics of the university graduates, such as their skills and professional capacity to act in the real world. It is also reflected in the real worth or relevance of the knowledge produced by universities through research, disseminated and put at the disposal of the society for use.

Defining quality in higher education Harvey and Green (1993) proposed five “ways of thinking about quality”.

- **Quality as exceptional/excellence** – this view refers to quality as exceptional with regard to the highest academic

standards and excellence. By definition, this kind of quality is not attainable by all.

- **Quality as perfection or consistency** – this approach looks at quality as a process to eliminate defects and aiming for a consistent or flawless outcome. In this view, quality can be attained by all by focusing on consistency (constantly improving and eliminating flaws).
- **Quality as fitness for purpose** – in this view quality is measured by the level of fulfilment of a stated purpose, mission or goals - either by an institution or an academic program; the exact meaning will vary depending on the actual purpose envisioned.
- **Quality as value for money** – the focus here is on the output per input ratio, with the aim of gaining more efficiency. In other words, this is similar to a return on investment approach. Quality is attained when a better or higher outcome can be achieved at the same cost, or if the cost can be decreased while the outcome level is maintained.
- **Quality as transformation** – this approach looks learning that is centred on the student; views quality as value-added and transformation and empowerment of a student through the learning process. In this scheme, quality is achieved when the learning proves transformative for the student.

Figure 2: Illustration of Harvey and Green’s five way of thinking about quality in Higher Education



Source: The Chartered Institute of Internal Auditors

Quality in Higher Education can also be understood with reference to the context and stakeholders.

The first one links quality to the context and looks at specific elements of the process, such as quality of assessment, student intake, academic programs, teaching and learning or student experience. This way of looking at quality in higher education typically emphasizes quality-related problems such as outdated teaching methods or curricula, too big classes and too high student teacher ratios or lack of sufficient academic resources.

The second angle in understanding quality here examines it from the stakeholders' perspective. It focuses on the premise that there is a diversity of perceptions regarding what quality of higher education is among different stakeholders such as policy makers, academics, students or employers.

Quality Assurance refers to the process of maintaining standards reliably and consistently by applying criteria of success in a course, programme or institution. Quality Assurance can be defined in terms of its four components:

- everyone in the enterprise has a responsibility for enhancing the quality of the product or service;
- everyone in the enterprise has a responsibility for maintaining the quality of the product or service;
- everyone in the enterprise understands, uses and feels ownership of the systems which are in place for maintaining and enhancing quality; and
- management regularly checks the validity of the system for checking quality

Quality is a multidimensional concept that touches not only upon quality assurance (QA) procedures, but also accessibility, employability, academic freedom, public responsibility for higher education and mobility. Quality Assurance itself serves multiple purposes, enhancing learning and teaching, building trust among stakeholders throughout the Higher Education systems and increasing harmonization and compatibility.

Quality assurance should ensure a learning environment in which the content of programmes, learning opportunities and facilities are fit for purpose.

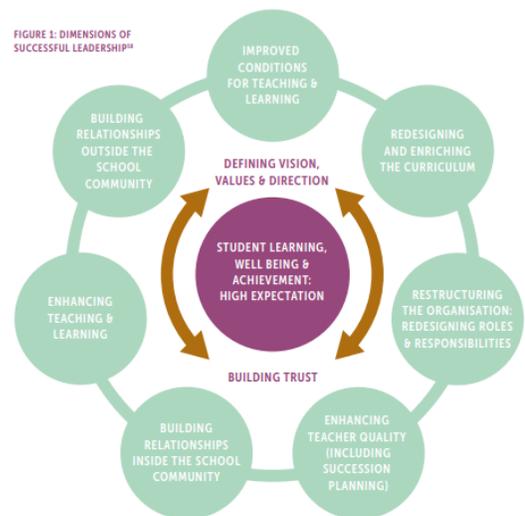
A very useful distinction in the area of quality assurance is between external and internal quality assurance. Both are important. While internal quality assurance appears to have a more direct and positive effect on quality improvement, the international experience shows that this is mostly the case in developed systems.

All higher education systems these days are being influenced by regional and global higher education trends. Without ignoring these external factors, a national quality assurance framework should be developed considering the unique national context and circumstances, and it should aim to fulfil functions and objectives defined and understood at the local, domestic level.

Effective Leadership

Leadership is often associated with positions of authority; the ability to exercise authority, to influence careers, to reward or censure, in an important adjunct to it, even if kept in background. Power relationships are factor not to be ignored in the adoption and conduct of quality assurance. But other attributes of leadership matter equally, if not more: the ability to persuade, to motivate, to inspire, trust, to set a personal example of commitment to and personal participation in the quality assurance enterprise.

Eight key dimensions of effective leadership identified by the IMPACT research. The inner circle illustrates the core focus of leaders' attention, the inner ring their core strategies, and the outer ring the actions they take in support of these strategies. The building of trust is an intrinsic part, embedded within each of the core strategies and an essential part of the actions in the outer ring. The eight dimensions are described below.



¹⁴Bryk & Schneider (2002); Louis (2007) ¹⁵Day and Johansson (2008) ¹⁶Day et al. (2008, 2009a) ¹⁷Day et al. (2010)

• Defining the vision, values and direction

Effective leaders had a strong and clear vision and set of values for their institutes, which heavily influenced their actions and actions of others, and establishes a clear sense of direction and purpose for institute. This vision is understood and supported by all staff members.

• Improving conditions for teaching and learning

To maximise the quality of teaching leaders should identify the need to improve the conditions to enhance the performance of the learners. Strategies are devised to improve the facilities to best suit the need of the students and staff both.

• Restructuring the Organisation: redefining roles and responsibilities

Organisational structures are to be redesigned purposefully clearly demarcating the roles and distributed leadership to

promote greater involvement of the staff with a sense of ownership which provide great possibilities for learning and growth. It will consistently increase the participation and a sense of belongingness. Teachers must be empowered in the areas of importance to them.

- **Enhancing teaching and learning**

It is imperative for the head teachers to continuously look for new ways to improve teaching. They must provide safe environment and full support to the teachers who are coming up with alternative approaches and innovative methodologies for teaching and learning. The staff will definitely be motivated and respond positively. It will also result in improved self- efficacy and job satisfaction.

- **Redesigning and enriching the Curriculum**

There is a dire need of striking a balance between academics and other life skills. Head teachers must work on the provision of co- curricular activities. These activities must be in sync with academics. Planning the activities accordingly will bring out the best in students as it will cater to the all-around development of learners.

- **Enhancing teacher quality**

A wide range of professional learning and development opportunities should be provided to the staff as a part of their drive to raise standard, feel motivated and committed. The teachers and supporting staff should be encouraged to participate in in- service and external programmes.

- **Building relationship inside the school community**

A healthy and positive environment within the school can be created by making everyone valued and involved. As a leader head teacher must demonstrate concern for professional and personal well- being of the staff. There should be trust and mutual respect.

- **Building relationship outside the community**

To build a reputation of school engaging with wider community is the key. Strong links with key stakeholders in the local community benefits the school. There should be regular interaction and participation through various programmes with the wider community.

- **Common Values**

Successful leaders achieve better performance through their core values and personal traits which are evident in their daily interactions and dealings. For these leaders students' care, learning and achievement remains the priority and heart of all the decisions.

Potential challenges related to the development of Quality Assurance (QA) in Higher Education

- Deciding on a suitable design for national QA framework that combines accountability.

- Paying attention to different stakeholders' perspectives and needs.
- Facing the resistance and potential conflict among some of the stakeholders group.
- Potential resistance from academicians.
- The risk of over-bureaucratization of the quality assurance processes.
- Lack of resources to support quality assurance initiatives including insufficient funding.
- Lack of quality experts.
- Lack of awareness pertaining to quality assurance implementation.
- Lack of leadership to strengthen quality system.
- Highly politicised higher education landscape.
- Lack of trust between different stakeholders and institutions.
- Lack of trust within an institution.
- Leadership failure in creating quality culture.

Implications for effective leadership to ensure quality in higher education

- Leadership and commitment of top management plays a significant role in quality improvement.
- Creating positive environment for learning and staff development.
- Being open to adopt new technologies and philosophies to improve quality.
- Encourage teamwork.
- Develop a communication strategy to report progress and results.
- Acknowledge the efforts of staff without creating unhealthy competitive environment.
- Maintaining good rapport with stakeholders and keeping them updated with the progress.
- Encourage quality circles and culture of quality.
- Organise training workshops and provide advisory support.

2. CONCLUSION

In all activities related to Quality Assurance across the world, there lies a common unifying thread that binds together the basic concept. In reviewing the concept of quality assurance itself, it can be said that there is a need for a common framework for Quality Assurance model; however there is no agreement as to a Quality Assurance definition. Furthermore,

although quality is the most significant concern for accrediting bodies, accreditation structures are decentralised and complex at both regional and international level.

Managing quality in higher education institution is not akin to business and industry. So the approach required is that of 'management for quality' rather than 'management of quality'. Quality assurance system leads to performance excellence. Quality Assurance is a continuous teamwork in which standards benchmarks and quality audit play a significant role. To implement quality assurance internally and externally, effective leadership is required that can share a vision with all the stakeholders and institution as to what quality is and choose a management model to improve overall quality and maintain continuous improvement.

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“A Study on the Effectiveness of Performance Appraisal System: A Strategic Tool for Human Resource Management”

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Abstract: The human resources department is considered one of the key support factors of a company from the highly competitive and unstable business environment. In the present era of competition, the most important strategy for a successful organization is to attract potential candidates for any particular post and retain the key employees to have better and highly motivated workforce. The most crucial function of human resources department is performance appraisal of human resources. Performance Appraisal is the way of assessing the presentation and progress of an employee or a group of employees on the assigned job and his potential for future development. Performance appraisal not only aims to assess the performance of an employee for fixing increments or promotion but also aims to diagnose the strengths and weaknesses of the employee for the development of employees. The companies have recognized the growing dependence on qualitative and satisfied employees, while at exactly the same time they concentrate on expanding techniques and ways of managing their human resources. This paper aims to analyse the different methods

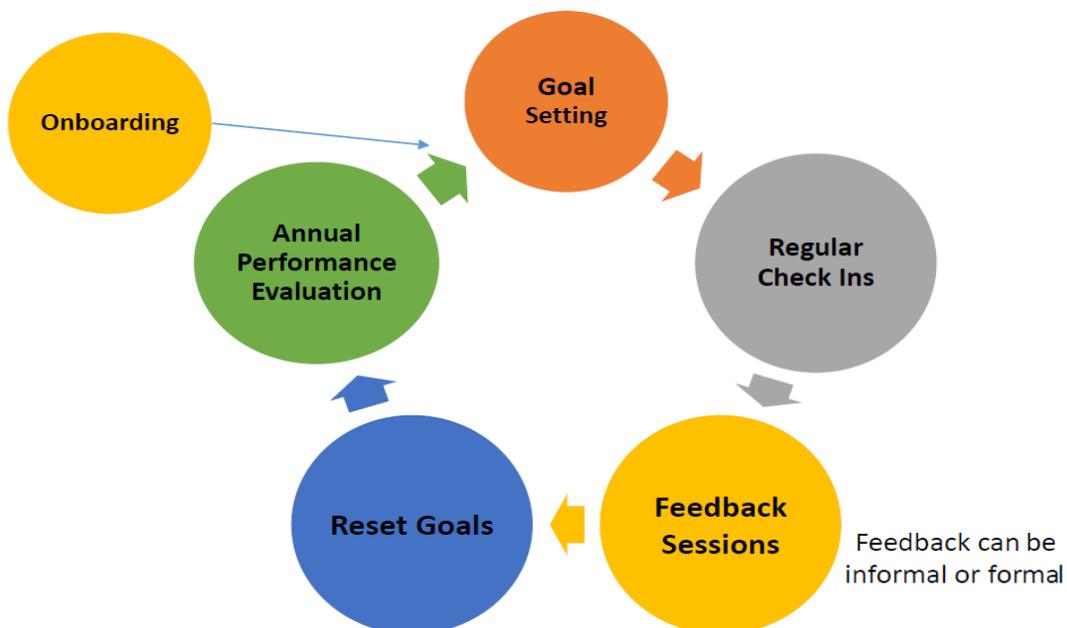
of performance appraisal at workplace, importance of appraisal and the practice adopted by leading companies for performance appraisal.

Keywords: Performance appraisal, techniques, Culture, Comparative, Management, Managers .

1. PERFORMANCE APPRAISAL

“Performance Appraisal is the systematic, periodic and an impartial rating of employee’s excellence in matters pertaining to his present job and his potential for a better job.” Flippo.

Performance appraisal not only aims to assess the performance of an employee for fixing increments or promotion but also aims to diagnose the strengths and weaknesses of the employee for the development of employees. Performance appraisal is the process whereby organizations examine the performance of employees. The appraisal is influenced by several activities that take place within the business and can affect its success.



Performance appraisal can be explained with three major components:

1. Performance Planning – Establish goals and objectives.
2. Performance Coaching – Provide regular feedback on performance throughout the year, and assist staff in modifying performance where necessary.
3. Performance Evaluation – Annual documented performance feedback.

Every single module of the performance management cycle is vital for successful accomplishment of goals and objectives. Thus the main objectives behind appraising the performance of employees can be summarized as under:-

1. It also assists the manager in framing human resource policy.
2. It aims in taking important decisions concerning promotions, fixing increment in salary, transfer etc.
3. It helps in analyzing the capabilities and weaknesses of employee and helps them in improving the same.
4. It also focuses on requirement of training needs, need for counseling, career planning and related aspects.
5. It promotes and assists research in human resource management.
6. To review employee performance with a view to learning from experience.
7. To agree key objectives and explore ideas for the improvement of results achieved.
8. To assist job holders in analysing their own strengths and development needs.
9. To assist the employee in the identification of training needs and other remedial initiatives.
10. To the assessment and advancement of their potential and career development prospects.
11. To secure feedback on how effectively the job holder has been managed or supervised.
12. To ensure that the job holder is fully aware of how management view his\her performance and contribution.
13. To assist with decisions relating to pay increases or new salary levels.
14. To maintain equity in the evaluation and treatment of staff, via usage of a standard performance review and a related appeals system.
15. To address the problem of sub-standard employee performance.
16. To assist with decisions in regard to staff retention.

17. To validation of selection techniques and employee retention decisions.

Source: Adapted from McMahon and Gunnigle (1994:11).

2. CHARACTERISTICS OF SUCCESSFUL PERFORMANCE MANAGEMENT SYSTEMS

1. The system is actively supported by top management both in their practices and resource allocations.
2. Appropriately customised training programmes are provided for reviewers and reviewees, with refresher and specialised programmes available as required.
3. The system in use incorporates a preparatory or self-assessment scheme type.
4. The system's objectives are clear, compatible, attainable and acceptable.
5. There is consultation with all affected parties in the design and review processes.
6. The system is job-related and fits with the organization's culture.
7. The system is part of an on-going feedback process.
8. The system is characterised by efficiency and results rather than bureaucracy and paperwork.
9. The system is the subject of on-going monitoring and evaluation.
10. The on-going performance management process and review meetings involve a joint approach to goal setting and problem solving.
11. Set goals and targets involve both a quantitative and qualitative dimension.
12. Performance is assessed inside an objective and balanced framework.

Source: Adapted from McMahon, G and P Gunnigle (1994:8).

3. METHODS OF PERFORMANCE APPRAISAL

The first step is to analyse the task of a particular position (job evaluation). Such an analysis aims to review the responsibilities and activities, the monetary resources, the way to achieve the goals and their importance, and finally it includes this is of knowledge and skills had a need to carry out the duty successfully. In some occasions, it was pointed out that the job analysis for certain positions in companies was somewhat vague which resulted in having difficulties in appraising specific employees. An issue that occurred quite often was the number of responsibilities that an employee should have. In some events, the staff was appraised for responsibilities that she/he could not do since she/he got limited authority to execute. Finally, ways to measure

achievement of the performance appraisal methods are located, after having averted errors which could decrease the trustworthiness of the evaluation.

There are two set of techniques for performance appraisal and they are traditional methods and modern methods. The various methods under these two are summarized as under:

The above methods differ from each other as under various methods the evaluation criteria related to performance differ. The method is selected according to the opinion and requirement of the management.

Traditional Methods: The methods are old techniques of performance appraisal where personal traits and qualities such as attitudes, initiative, loyalty, knowledge of job, punctuality are taken into consideration. The popular methods under traditional ways are discussed as under:

- A) Ranking Methods:** Here employees are ranked on the basis of job performance. Higher officials ranks his worker based on merit, from best to worst.
- B) Critical Incidents Method:** Under this method the appraiser keeps a written record of the critical incidents and how employees behave in such incidents. This method assigns rating on the basis of positive and negative behavior of employees during such critical incidents.
- C) Essay Method:** The appraiser writes down the employee description in detail covering a wide range of aspects such as performance, existing capabilities, potentials and qualifications of performing jobs, strengths and weaknesses and training needs of the employee.
- D) Checklist:** Under this method, checklist of statements of characteristics and performance of employee in the form of Yes or No based questions is prepared. Here the rater only does the reporting and HR department does the actual evaluation.
- E) Paired Comparison Methods:** In this method each employee is rated with another employee in the form of pairs and accordingly rank is assigned.

Modern Methods: Now a day's companies are considering the performance appraisal techniques very important and have planned new ways of analyzing the performance of employees which covers wide range of aspects. Some of the popular modern methods of evaluation are discussed as under:

- A) Management by Objectives:** One of the most important and widely used technique is MBO which means employees performance is rated against the achievement of objectives stated by the management.
- B) 360-Degree Feedback:** Here the information of an employee is collected from a number of stakeholders like immediate supervisors, team members, customers, peers and self.
- C) Assessment Centers:** An assessment center is where managers may come together to have their contribution in

job related exercises evaluated by skilled observers. It is more focused on surveillance of behaviors across a series of exercises or work samples.

- D) Human resource accounting method:** The method measures personnel management activities. This method tries to find the worth of human resource in the terms of cost and contribution of the employees.
- E) Behaviourally anchored rating scales (BARS):** The method compares an individual's performance against definite examples of behaviour that are anchored to arithmetical ratings. Behaviorally anchored rating scales (BARS) are scales used to rate performance. BARS are presented vertically with scale points ranging from five to nine.

The techniques of performance appraisal keep on changing and also the selection of technique depends on variety of factors.

For instance Infosys has changed the way performance appraisal is being done. The company focuses more on individual performance rather than relative performance. Infosys have moved away from forced ranking curve and has given managers more flexibility and empowerment, with the main focus on maintaining a high performance culture. Performance appraisal system adopted by Infosys is known as iCount for its 193, 000-odd employees that seeks to reward individual performers on the basis of specific targets.

A study conducted by Adrienne Quilliam, the Coordinator, Wharton School of the University of Pennsylvania on performance appraisal. The research shows that companies spend approximately 1-2% of existing payroll on gratitude gifts like gold watches, pins and other appreciation awards for their employees. But does this work? Studies on tenure-based reward systems reflects that the results are not as impactful on organizational performance as originally planned. Infact, it is modern re-engineered performance appraisal programs that make positive and productive operational cultures, and peer on peer acknowledgement that encourages performance in employees.

According to Maslow's Hierarchy of Needs in the Theory of Human Motivation, the two most essential psychological needs human beings have are to feel appreciated and the desire to belong. A recognition rich company culture has been proven to lower voluntary turnover rates by a whopping 31%, where companies have chosen to recognize employees not on their tenure, but instead based on their definite efforts and behaviors, motivated peer on peer performance appraisal and all the while tying each accomplishment to the company values and goals.

When appreciation and recognition for hard work is awarded as a daily norm and is a vital part of the company culture, trust and accountability amongst employees are resulting factors. So, saying that little thank you, or applauding your coworker for doing a good job can take you one step closer

to incorporating trust into your company culture, and motivating your coworker to be more productive.

4. LIMITATIONS OF THE PERFORMANCE APPRAISAL PROCESS

Factors from both the internal and external business environment have a great impact on the performance appraisal process. As key external factors may be looked at the staff unions and the law, whereas as inside factors may be considered the culture of the business and the increasing use of teams for the work execution.

5. CONCLUSION

Human resource is the most imperative resource of any organization. The companies must pay back the sincere employees in the way of increments, promotions, skills enhancement through training and development and it is possible through performance appraisal. It is very important to select the appropriate technique of performance evaluation as it is a way to reward the efforts of employees.

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“A Conceptual Review of Management Development Needs in Complex and Challenging Environment”

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Abstract: Management Development has become very significant in today's competitive environment. Managers must be able to get the required knowledge, skills, and attitudes to meet the challenges as soon as they arise. Organizations that wish to develop strong managers need to take steps to ensure that they are able to identify managers, with management potential, evaluate the need for performance improvement in specific areas and also provide training designed to increase managerial competencies and along with they must address a number of challenges in management development. It is due to the incredibly rapid expansion of latest technology demanding numerous specialised and qualified employees to manage sophisticated, complex and dynamic business. This paper discusses some of the debate that currently prevails within the field of management development. The paper concludes with a brief discussion of importance, methods, objectives, purposes, techniques and the issues involved in evaluating the effectiveness of management development, focusing in particular on the problems of measurement of outcomes.

Keywords: Management development, Effectiveness, Managers' performance.

1. INTRODUCTION

Organizations require a process for developing the skills of their executives and functional managers as these employees direct and organize the work of all of your other employees. Moreover, if you want to retain your best managers and potential managers, most significant among their needs from work is the opportunity to continue their personal and professional growth and the growth of their careers. A company should provide the training programme and opportunities for development to its present as well as potential managers and offer ample scope for talents to conic forward.

But it should be clearly noted that training programmes such as case studies, lectures, role playing, readings, job rotation and so on cannot automatically guarantee, the accelerated output of managers. More important of planned training programme is the individual efforts of the person himself. Similarly, self-motivation is the important and pivot of management development programme.

In an organization, the top management must develop and create an environment in which self-development is encouraged and facilitated. The process of management development begins with top management's support and recognition of the need for MDP. Development of suitable policy guidelines and assignment of special responsibility for executing the policy create a favourable climate of on-the-job growth, personal improvement and development of managers.

Management development is the concept that explains the many ways in which organizations help staff develop their personal and organizational skills, either as managers in a management job or with an eventual management job in mind.

“Management development is an organized process of management training and growth by which individuals employees (aspiring to rise on the ladder of management) gain and apply knowledge, insights, skills, and attitudes to manage managers, workers and work organizations effectively”.

“Management Development is the process from which the managers improve their skills & knowledge not only to benefit themselves but also for organizations”.

Management development, therefore, means any planned, guided or directed activity undertaken by a manager to help himself become more competent in his present and to consciously prepare himself for assuming more important managerial duties and responsibilities so that he / she can claim promotion by merit or competency.

2. IMPORTANCE OF MANAGEMENT DEVELOPMENT

Management Development has become very significant in today's competitive environment. Managers must be able to get the necessary knowledge, skills, and attitudes (KSAs) to meet the challenges when they arise. It is because of the unbelievably rapid expansion of technology demanding several specialised and qualified employees to manage complex, sophisticated and dynamic business. This is future oriented method and more concerned with education of the employees. It is not shown on the corporate balance sheet, but it influences appreciably the growth, progress, profits and the share values, than any other corporate assets.

The importance of the management development is as below:

1. It is top managements' responsibility of ensuring the success of the organization.
2. It is managements' responsibility to ensure that the employees obtain the required knowledge, skills, and attitudes (KSAs) to perform the tasks.
3. To become a better performer by education implies that management development activities attempt to instill sound reasoning processes.
4. Manager's job is complex. For the managers the training need is not easy because his training need is determined by how well his department is meeting its objective and goal.
5. It is managements' responsibility to ensure that right people are hired for the right job, at the right time for the right place.
6. It is managements' responsibility of ensuring the success of the organization.
7. It is the management who deal with people of different background, language, culture, etc.
8. No modern business can continue to be successful without planned attention to the growth and development of its managerial staff.
9. Mergers and acquisitions, downsizing, etc. are all under management's control.
10. It is the top management that understands the organization, its vision, mission, values, ethics, strategies, capabilities and how his organization fits into the industry.
11. It is the management that understands how his behavior will influence people outside the organization.
12. Assurance that these properly placed managers could grow as per expectations and could meet both the needs of the organisation as well as their own needs.

3. OBJECTIVES OF MANAGEMENT DEVELOPMENT

The objective of executive and manager development is to make sure that managers are ready to take on the responsibilities and contribute effectively towards the growth and development of an organization or company. The core objective of management development is to improve the quality of managers' performance now and in future. The main objectives of the management development are as under:

1. To help the top management to understand the economic, technical and institutional forces in order to solve business problems.
2. It is important for organizations to shape the future of every manager and give him the space to grow. Managerial programs help a great deal in this regard.

3. To broaden the outlook of the various levels of management especially top management regarding their role, position and responsibilities.
4. The success or failure of any organization depends on the decisions taken by managers.
5. The functional areas that are dependent on the decisions taken by executive and managers include quality of the products, customer satisfaction, relation with vendors, profitability and productivity of the organization and relation with employees.
6. Development manager programs are intended towards improving decision-making abilities of managers.
7. To create conditions and a climate which contribute to the growth process.
8. To develop managers/executives for better performance on their present job or assignment.
9. To increase morale of the managers.
10. To create a sense of inter-departmental coordination among managers.
11. To create the second line of defence in the organization so as to meet the emergencies.
12. To replace elderly executives, who have risen from low ranks, by highly competent and academically qualified professionals?
13. To increase the versatility of the managers.
14. To provide a steady source of competent persons at different levels so as to meet the future requirements of the organisation.
15. To enable the managers to understand the problems of the business organisation in so far as they arise out of its policies and system of control.
16. To indicate how to apply to practical problems the knowledge of the physical and social aspects of business problems and management.
17. Programs designed for development of managers help develop mutual trust, mutual understanding and feelings of cooperation.
18. All these encourage team work and will contribute to the success of the organization.
19. To acquire knowledge about the problems of human relations and also to stimulate creativity in the thoughts of the managers.

4. PURPOSE OF MANAGEMENT DEVELOPMENT

The objective of these development programs is to induce these capabilities in the managers to make them more efficient than before. The managers are required to carry out a number

of activities, including planning, supervising, organizing, communicating, motivating, etc. All these functions and more require capabilities, knowledge, and skills. Management development is learning processes that make use of an organized procedure by which management personnel learn conceptual, theoretical and practical knowledge for general purpose. These purposes are:

1. Human Resource Planning
2. Personnel growth
3. Productivity
4. Quality
5. Obsolescence prevention and
6. Morale.

In an organization, future executive and managerial positions can be created by market expansion, internal mobility, new role and responsibility, attrition, etc. Hence, manager programs help design and develop succession plans to generate future managers within the organization.

5. TECHNIQUES FOR MANAGEMENT DEVELOPMENT

The following are the management development techniques:

1. **Coaching** - In coaching the trainee is placed under a senior manager who acts as a guide or coach and teaches job knowledge and skill to the trainee.
2. **Job Rotation** – Job Rotation refers to the transfer or movement of executive from one job to another and from one plan to another on some planned basis for educational learning purposes.
3. **Mentoring** - Mentoring provides guidance and clear understanding of how the organization goes to achieve its vision and mission to the junior employee. Mentoring is an continuing relationship that is developed between a senior and junior employee.
4. **Job Instruction Technique** - Job Instruction Technique uses a strategy with focus on knowledge, skills and attitudes development.
5. **Case Studies** - The case study method emphasize on approach to see a particular problem rather than a solution. Case Studies try to suggest decision-making situation that trainees may find at their work place. The objective of the case study technique is to get trainees to apply known concepts and ideologies and ascertain new ones.
6. **Business Game Method** - Under this, scheme an atmosphere is created in which the participants play a dynamic role. Generally management games consist of numerous teams which represent competing groups. Each team in group has to make discussion and to arrive at decisions concerning such as production; research

expenditure, and pricing. These business games are proposed to teach trainees how to take management decisions in an incorporated manner.

7. **Equipment simulators** – These are the techniques that need trainees to use some actions, trials, movements, plans, measures, or decision processes they would use with equipment back on their respective work place. Trainees are assigned different roles in that situation. This is the method of working up a real thing, in which a situation is created and attempts to make it resembled to the actual situation. Hence a duplicate atmosphere but like original sense is created.
8. **In-basket Technique** - These are also called business papers like memoranda, reports and telephone messages and other general papers which come across the table of the manager. In-basket technique, each team of trainees is given the different files of correspondence of the business problems. The trainees are request to study them, analyze them and make their observations on the file.
9. **Sensitivity training** - It is ability of an individual to sense what others feel and think from their own point of view. This technique is help people to know about themselves and others rationally, which is done by developing in them social sensitivity and behavioral flexibility.

6. EFFECTIVE MEASURES FOR MANAGEMENT DEVELOPMENT PROGRAMME

The following measures make the training or development programmes effective:

1. Need analysis should be carried before conducting a training programme. It finds gaps between the present and future which can be filled through development programmes. It identifies the need for exploiting the potential of a person to contribute to organisational performance.
2. Training can only modify their behaviour, it cannot change the nature and personality of a person.
3. Managers conducting training programmes must be trained properly. Ineffective trainers make the training programme also ineffective.

7. CONCLUSION

Management Development ensures development of business executives and managers' in accomplishing business goals with analytical vision, improve its competitive advantage, and build high performing organizations. Investing in developing managers at the executive levels ensure the business thrives and succeeds in short-term and long-term.

The Management Development Program is an **investment in your** executives and managers' for enhancing their skills. Management Development is to support your efforts. Managers will connect with peers from across your individual

location, share challenges and work together to find effective solutions. Management Development is a vigorous development that enhances and strengthens managers' leadership capabilities in the core competencies and ensures you have the skills, knowledge and resources to effectively **lead, engage, and develop** your team.

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A Comprehensive Study of Panchayati Raj Institutions and Primary Education with Special Reference to Rural India

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Abstract: *As far as education is concerned, it is a valuable instrument for all round progress of the people, society and nation at large. Education is a valuable tool for harmonious progress of the people intellectually, socially, economically, spiritually etc. It trains the people to visage the challenges and makes their lives better while developing the sense of conscientiousness of citizenship among students. Education is a valuable weapon for rustic progress and management through Panchayati raj system. As far as Panchayati raj institutions are concerned, they play very a precious function in progress of primary education, health, agriculture, women, child progress etc. The Panchayati raj institutions are valuable system which plays a vital function in rustic progress and management of all spheres. The various types of campaigns for rustic progress such basic primary education, health centres, cottage industries, agriculture progress, agriculture marketing, transportation and others rural community progress run under Panchayati raj system/ rural community progress authority. Panchayati raj institutions play a vital function in progress of primary education too which is a valuable tool that cultivates the sense of conscientiousness and care among students and people towards rustic progress. Without quality at primary education level, the progress in rustic area is impossible. It develops the various skills among the students to visage the challenges of life. Panchayati raj institutions are the main source for progress of primary education through its shiksha samitis, shiksha mitras and other samitis. The Pachanyati raj institutions play a valuable function in executing the Sarva Shiksha Abhiyan (SSA) successfully.*

Keywords: *Panchayati raj Institutions, rustic progress*

1. INTRODUCTION

According to Gandhiji, "Indian independence must begin at the bottom. Every rural community should be a republic or a Panchayat having full controls. The greater the control of Panchayats, the better it is for the people". To him "Swaraj" signified the vesting of the ultimate authority in the peasant and the labourer. True democracy cannot be worked from underneath by the people of every rural community.

Swami Vivekananda said, 'If the poor boy cannot come to education, education must go to him.' Undoubtedly the quotation is speechless but an idea struck, 'Are not we imparting poor education to poor children?' Indeed education must be such as may empower one's own country which may make that body confident and strong enough to visage new challenges of the world as well as challenges going on within him. Education is the future of any country. It is necessary for moral, spiritual, physical, material, economical and natural progress of a country. Education is very necessary for all the children as these children are the future of our nation. Without education we cannot progress in the field of science & technology. Education helps the individual to become a good inhabitant. An uneducated individual can neither be a good inhabitant nor a good parent. He is ignorant and superstitious. Deprived, he cascades in the darkness of ignorance. Thus education in mother tongue is a very necessary part of everyone's life. Panchayats have been the backbone of the Indian rural communities since the beginning of recorded history. Gandhiji (1946) had aptly remarked that the Indian Independence must begin at the bottom and every rural community ought to be a Republic or Panchayat having controls. Gandhiji's dream has been translated into reality with the introduction of the three-tier Panchayati Raj system to ensure people's participation in rustic reconstruction. Panchayati Raj is a three-tier system of administration for the progress of rustic areas, with the Gram Panchayat at the rural community level, the Panchayat Samiti at the block level and Zila Parishad at the district level. It has been introduced to endow with a bold and imaginative leadership for all round progress of the rural community.

2. OBJECTIVES OF THE STUDY

- To discuss the significance of decentralization of administration in developing country like India.
- To discuss the structure and essential functions of PRI's in enhancing primary education.
- To analyze the present status of education in rural India.

3. RESEARCH METHODOLOGY

The study is explorative cum descriptive in nature. It is an empirical research based upon secondary data. The theory is

basically developed from secondary sources of information and a thorough study of various academic works in the relevant field has been attempted.

4. DECENTRALIZATION OF ADMINISTRATION

In this light, The Constitution 73rd (Amendment) Act, 1992 has endowed with a new dimension to the concept of Panchayati Raj. In other words, the concept of people's participation should be considered as an ideological commitment and, therefore, legislative and structural measures should be initiated to give legitimacy to people's participation. Education and non formal education spread of literary and cultural activities to Panchayati Raj bodies (Article 243G of the Eleventh Schedule). The 73rd and 74th amendments of the Indian Constitution (1992) were historic attempts to empower local self governments by giving them constitutional status and identifying 29 areas including elementary education over which they can legitimately have jurisdiction. It recommended for the delegation of authority related to education. In 1993 Veerapan Committee recommended that decentralization of educational planning: through involvement of Panchayati Raj Institution. In District Education Primary Campaign (DPEP), decentralization and community participation are being put into practice on large scale. Sarva Shiksha Abhiyan (SSA) which is an elaborative campaign nationwide.

- Efforts have been made to decentralize planning and management of education to the local level so as to make the delivery of educational campaigns more effective
- Provision of basic infrastructure is a pre-condition for the success of rustic progress campaign. Regarding the accessibility, adequacy of different infrastructural facilities such as drinking water, sanitation, street light, education, health, quality of roads, transport, etc.
- For democratic decentralization of administration and the empowerment of local political bodies, the Panchayati Raj Institutions (PRI) are created which are more accountable to local inhabitants and appropriate to local needs.
- Panchayati Raj Institution is a three-tier system of administration at the grass root level for the progress of rustic areas
 - Gram Panchayat at the Panchayat level where chairman of Panchayat (Mukhiya) is the head,
 - the Panchayat Samiti at the block level where chairman of Panchayat Samiti (Pramukh) is the head, and
 - Zila Parishad at the district level where chairman of Zila Parishad is head

The Panchayati Raj Institutions are statutorily elected bodies at the rural community, Block and District levels with controls of local government. The primary purpose of Panchayati Raj is to strengthen the base of democracy at the grass roots and to

enable the people of each rural community to make decisions. The system is based on the following principles.

1. There should be a three-tier structure of local self-governing bodies from rural community to district level, with an organic link from the lower to the higher ones.
2. There should be a genuine transfer of control.
3. Adequate financial resource should be transferred to these bodies to enable to them to discharge their conscientiousness.
4. All progress campaigns at these levels should be channeled through these bodies.
5. The system evolved should be such as to facilitate further decentralization of control and conscientiousness in the future. (Dahama 1993, 41)

Functions of Panchayat

1. Endow with essential services and facilities to the rustic population.
2. Supply improved seeds to farmers and inform them of new farming techniques
3. Set up and run schools
4. Start primary health centers and hospitals in rural communities; start vaccination drives against epidemics
5. Execute plans for the progress of the scheduled castes and tribes; run ashram shalas for Adivasi children
6. Encourage entrepreneurs to start small-scale industries and execute rustic employment schemes.
7. Construct bridges, roads and other public facilities and their maintenance to endow with employment.
8. Works on Sanitation related issues

A list of 29 functions was prepared to be carried out by PRIs. Some of the valuable functions are:

- agricultural progress and irrigation facilities,
- land reforms,
- eradication of poverty,
- dairy farming, poultry, piggery and fish rearing,
- rustic housing
- safe drinking water,
- social forestry and fuel,
- primary education, adult education and informal training,
- roads and buildings,
- markets and fairs,

- Child and women progress,
- Welfare of weaker sections—SCs and STs.

Looking at the above functions and some special provisions made in the Act, it is amply clear that the new PR system has undoubtedly empowered the rural communities to take steps for their all-round progress.

5. STRUCTURE AND FUNCTIONS OF PANCHAYATI RAJ INSTITUTIONS

As said before, the structure of Panchayati Raj (PR) varies from state to state. Some states have three-tier structure (Gram Panchayat at the rural community level, Panchayat Samiti at block level and Zilla Parishad at district level), whereas some have two-tier structure (Gram Panchayat at rural community level and Panchayat Samiti at block level). A few states have only single-tier structure at the rural community level.

The Panchayati Raj model is of three levels, viz., Gram Panchayats (rural community level), Panchayat Samitis (block level) and Zilla Parishads (district level). The chairperson of Gram Panchayat is known as Sarpanch, of Panchayat Samiti, Pradhan and of Zilla Parishad, Zilla Pramukh. Their nomenclature, composition and tenure vary from state to state. The structure and functions of the PRIs in terms of Gram Panchayat, Panchayat Samiti and Zilla Parishad are spelt out as under:

Gram Panchayat

Gram Panchayat is the base or bottom tier of the PR system. It is the first executive tier having jurisdiction over a rural community or group of rural communities. The members of the Gram Panchayat—the Panchas and Sarpanch (chairman)—are directly elected. Their number in each panchayat varies from 5 to 31 according to population of the concerned rural community (s). In addition to the elected Panchas and Sarpanch, there is a provision for co-option of two ladies, and one SC and ST member each, if they have not been elected as Panchas.

The main functions of the Gram Panchayat are:

1. Law and order: Maintenance of peace and harmony in the panchayat circle.
2. Civic: Construction of wells, ponds, water reservoirs and distribution tanks; construction of public streets, public latrines and maintenance of roads, etc.
3. Welfare: Famine and flood relief work, welfare campaigns for women, children, handicapped and weaker sections.
4. Administrative: Collection of funds, maintenance of records, budget and accounts, registration of births and deaths, etc.;
5. Commercial: Supervision of community orchards, grazing ground, etc.

6. Developmental: Preparation and execution of plans for the promotion of agriculture, irrigation, co-operatives, cottage and small-scale industries. The main sources of income of panchayats are the grants from government, taxes on buildings, vehicles, goods and animals, pilgrim tax, etc.

Panchayat Samiti

It is the middle tier of the PR system—between Gram Panchayat and Zilla Parishad. This tier was coterminous with the tehsil or taluka. This is composed of Sarpanchas (ex-officio members) of all the Gram Panchayats within a block along with MLA of the area (without right of vote). In addition to these ex-officio members, there are some coopted members—two women, one SC and ST representatives each, if they have not already been elected as primary members. The chairperson of the Panchayat Samiti is called Pradhan. He is elected by the members of the Panchayat Samiti amongst themselves. At certain places, such as in Rajasthan, Panchas of Gram Panchayat also take part in the election of Pradhans.

The main functions of the Panchayat Samiti are:

1. Agriculture—formulation of plans of progress of agriculture, tree plantation and soil conservation;
2. animal husbandry;
3. health and sanitation;
4. education—running primary schools;
5. communication—construction and maintenance of inter-panchayat roads, etc.;
6. Co-operation—promotion of co-operative societies;
7. progress of cottage and small-scale industries; and
8. Miscellaneous work.

The main sources of income of Panchayat Samiti are annual grants by state government, share from land revenue, proceeds from taxes, fees and loans, contributions, etc.

Zilla Parishad

It is the apex body of the PR system located at the district level. It is also known as District Progress Council in some states (such as Tamil Nadu). It is composed of:

- (i) Chairpersons/Presidents of Panchayat Samitis within its jurisdiction;
- (ii) MPs, MLAs, and MLCs of the area;
- (iii) Members representing women, SCs and STs are co-opted if they are not otherwise members;
- (iv) Representatives of co-operative societies, municipalities of the area; and

The membership of the Zilla Parishad remains in the range of 40 to 60 individuals. The elected head of Zilla Parishad is known as Zilla Pramukh (President). He is elected either

directly or indirectly from amongst the members of the Zilla Parishad. Zilla Pramukh works through committees which look after specific works like education, planning and finance. The main sources of income of the Zilla Parishads are grants-in-aid from the state government, share in the land revenue and other taxes like the cess. The above structure and functions of all the PR bodies have been changing over the years. It has aroused a spirit of self help and popular participation to some extent among the rustic people. Some of the responsibilities of PRI are:

1. Procuring infrastructure for the school, like developing separate toilet for boys and girls, hand pumps for drinking water,
2. Developing boundary wall, classroom, kitchen for mid-day meal
3. Procuring the TLM for school like black board, chalk, duster, chart, model, T.V, Computer etc,
4. preparation, distribution and monitoring the quality of mid-day meal and
5. To take training about functions on school management.

Reasons for Non-Involvement of the PRI Members in School Functioning and Ways to Involve Them

1. Illiteracy and poverty. Initiatives need to be taken for making PRI members as functional literate through non formal education and open education.
2. Community members such as parents and guardians must be sensitized about the “our school” concept where improving participation of PRI
3. The HMs and teachers attitude towards PRI members need to be changed for the betterment of elementary education.
4. Both PRI members and school HM/teachers required working together for realizing the purposes of the RTE Act 2009.

Panchayati Raj Institutions are main body of rural community local government that cooperate very a precious function in progress of rural community especially primary education, health, agricultural progress, women and child progress and women participation in local government etc. The various types of campaigns for rustic progress such basic primary education, health centers, cottage industries, agriculture progress, and agriculture marketing, transportations and others rural community progress run under panchayati raj system/ rural community progress authority. The primary education is totally controlled by the Gram Panchayat/ Gram Sabha. The members of gram sabha play an active function in activation and execution of primary education.

6. EDUCATION IN RURAL INDIA

It is not that the children of our cities and the children of our rural communities should be taught different things. The

curricula must obviously be of the same standard. But it would be wise to recognize that the different contexts have fostered different inherent skills and abilities. Their initial upbringing would have also emphasized different skills, so they start from a different qualitative baseline. Not only are the students, but also the education environment varied. Many rustic schools have less robust buildings, troubles in access with seasonal variations, and less access to a range of knowledge centres even if they have great teachers.

Many of the current troubles in our rustic schools are well known. Most have inadequate infrastructure – solid walls and a roof that does not leak are considered an achievement. Most do not have toilets or reliable electricity. Teaching equipment is limited to a rudimentary blackboard and chalk, and textbooks do not always reach the students on time. Over a third of our schools are single teacher schools, many of them in rustic areas. This means that if the teacher is ill or absent, school is closed. It also means that not only is each classroom a multi-ability classroom, each classroom has students who are supposed to study in different grades/standards with different textbooks. The greatest challenge for rustic schools is to find ways to encourage children who are genuinely able and interested in the pursuit of academics. Such children have to depend on the single (or a small number) teacher and hope that they are both competent and kind enough to invest time in nurturing them. At this stage it often becomes about individualities, relationships, and control structures in the rural community and about possible exchange of value rather than the school being a system where such students get their answers. Rustic infrastructure suffers the effects of isolation too.

There have been some notable successes in recent years in rustic education. The Barefoot College, where literacy is not a requirement for being trained as a professional in rustic electrification is well known. Other examples such as the 8 Day Academy, where education is delivered in a capsule version – 8 days of targeted workshops that give them new skills and knowledge. Subjects include computers, public speaking and idea progress. Another shining example is the Gurukul School in rustic Bihar that is run via control generators and skype, where fee paying students log attendance via the computer and teachers via bio metric fingerprint machine. Lessons are delivered by trained teachers who were chosen from all over the state via an entrance exam and by other engineers via skype. Each of these is an innovative solution to bypass or supplement the issues in rustic education. Each of these efforts is driven by individuals. There are many such inspiring efforts across the country that seeks to endow with quality education.

7. CONCLUSION

Indeed, Panchayati Raj Institutions play a vital function in progress of primary education. The primary education is the main instrument/source of all round progress of the rural community people; it develops the various skills among the

students to visage the challenges of life. It is fact that pachayati raj institutions are the main sources of all round progress of rural community. Panchayati Raj Institutions are playing very significant role in progress of primary education, health service, agriculture, road transportation, women and child care and agri-business etc. Panchayati raj institutions are the main source for progress of primary education through its shiksha committees (Samitis) and shiksha mitras and other various committees. The Pachanyati Raj Institutions play a valuable function in executing the Sarva Shiksha Abhiyan (SSA) successfully. Education is a valuable process of harmonious progress of the nation-social, economic, industrial and agricultural. It develops the sense of conscientiousness of citizenship among students and people to understand the importance of education in life.

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Students' Consciousness about Plagiarism in Quality Assurance

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Abstract: *In recent Global era, education is a very important sector especially when we talk about knowledge economy. Quality in education is an important aspect in providing education to students but students are not completely aware about quality content writing. For this purpose, this study was conducted to analyze the students' consciousness about plagiarism on the basis of two demographic attributes i.e. gender and class status i.e. postgraduate and research scholar of different government and private universities. Respondents who completed the online survey were asked a total of 12 questions (four questions about demographic information and eight questions about plagiarism understanding). The results of this study specify that students have an understanding of plagiarism on some statements and some students are facing problem in identifying statements among students of all class status and gender basis.*

Keywords: *Quality, plagiarism, online survey, demographic attributes.*

1. INTRODUCTION

Education is a very important sector especially when we talk about knowledge economy. Hence, we need to ensure quality in education. Quality in education is a major issue now-a-days. Genuine research work is an area of concern. Students now-a-days are busy in number crunching exercises, not ensuring quality. Reasons for this are many, which may be discussed in future researches. One of the issues is while undergoing good researches; one has to ensure the proactive avoidance of plagiarism. Researcher are talking about genuine research work and quality in research. There are discussion about the issue if plagiarism also, but there is no discussion regarding how the students can write a good paper, how to avoid plagiarism proactively. Plagiarism is not an issue for students in their academics therefore they regularly participate in dishonest behavior (Engler et al, 2008)

Although it is not clear why students plagiarize in academics may be the reason is idleness, poor writing skills, lack of educational veracity, misbelief that everyone is doing it, so there is no problem if I do it (Bisping, et al., 2008). In this way quality cannot be expected from students. Who is to be blamed for this? It may be students themselves, the faculty members in

institutions, the over competitive education environment, the policies of government or may be the overall environment of the fast paced world.

Students should be well informed and initiated to write reflective articles which help them in improving their writing skills. This research is concerned with analyzing students' consciousness of plagiarism in quality assurance which may help the educators in better understanding students' knowledge of the plagiarism.

2. REVIEW OF LITERATURE

Welsh and Dey (2002) elaborated the "quality measurement" and explained the role of venture wide, technology based uninterrupted quality measurement system (QMS2000) in quality assurance program of University of Louisville and concluded that QMS2000 helps in "common strategy of assessment, improvement and accountability to internal and external society, accrediting self study and site visits and it devolves much responsibilities for assessment to the programs".

Radunovich, Heidi, et al (2009) concluded in their study about various aspects of plagiarism of students understanding regarding plagiarism. They asked statement questions from students on the basis of demographic factors and found that students have good understanding of plagiarism except for few statements.

Rahel Schomaker, 2014 analyzed the quality of the Egyptian accreditation system. On the basis of triangulation of document analysis and semi structured interviews he analyzed the strength and weakness of certification organization and found that structural adjustments of an official "accreditation structure" are essential providing sound incentive for peer reviews.

Reda. 2015 concluded in his paper the balanced scorecard in higher education institutions. He has defined the similarity between balanced scorecard and quality assurance dimensions. He also projected a model of the balance scorecard which will help faculty to think about the core functions of the higher education organizations in forecasting, implementing and assessing processes.

Suchomel and Brandeys (2015) described an “architecture and concepts of real world document retrieval system” in their research for quality assurance. He concluded the real life experience of anti plagiarism system which provides ideas and technique for an aspirants “document retrieval system construction”.

3. OBJECTIVE OF THE STUDY

To assess the Students’ Consciousness about Plagiarism in Quality Assurance

4. RESEARCH METHODOLOGY

In this study we assessed the Students’ Consciousness of Plagiarism in Quality Assurance. Participants are in this study are graduate, postgraduate students and research scholars from the different government and private universities. Primary data was collected by the questionnaire prepared in online form and further distributed through email ids containing eight questions on plagiarism from different universities by convenience sampling. This questionnaire was offered to approximate 300 students but only 65 students have completed it. Average age of all the participants is 26.95 years and gender distribution in this study is 41 females and 24 males. SPSS-19 was used to analyze the data.

Measurement: The study is conducted to check that students are aware at which extent about plagiarism at different levels of their academic stage. In this study, the questionnaire contained a total of 12 questions in which four questions about demographic information and the remaining eight questions is about plagiarism understanding. In the given questions about plagiarism, students are asked to identify whether the scene presented in the questionnaire is an example of plagiarism or not plagiarism or with another option of “unsure” if they are not sure about the answer of the particular question in plagiarism. All the given questions are on some concepts and understandable for respondents. There are some questions that might be difficult for respondents to determine. As question number 8 is about whether turning in other person’s answer sheet as one’s own would be considered plagiarism, because this concept is very common in plagiarism. Here this question helps to identify random responder. If any respondent marks all options as “not plagiarism” that student’s response is eliminated from the final analysis during interpretation of the result.

Tools: Descriptive statistic and Chi square test (Independence of attribute) has been used.

5. RESULTS AND CONCLUSION ABOUT STATEMENTS

Results Analysis: Results of this study are based on the overall sample and results of each question that including in this questionnaire are analyzed by Chi-square test (Independence of attribute). These results further analyzed on the basis of demographic attribute i.e. gender and class status (Postgraduate/Research scholar).

6. DISCUSSION OF QUESTIONS RESULT:

Question.1: Here students were asked about taking exact wording without mentioning that the content was quoted but the citation is provided for the same content. For this question, 52% respondents stated this is plagiarism and 37% reports as not plagiarism and the remaining 11% of respondents were unsure about the situation. Response pattern shown by this question suggests that many students may believe that they can take content from any source and paste it in their paper and assumes only providing is enough.

Question.2: This question helps us to determine respondents’ beliefs that they can take content from any source and include in their paper by converting it into one’s own words without providing a citation. Here 39% of respondents report this is plagiarism and 48% reports as not plagiarism and the remaining 13% of respondents were unsure. Actually, in case of not providing or improper citation are considered as plagiarism.

Question.3: In this case, proper citation is provided for the content taken from another source of information but some minor words are changed. Responses recorded for this question are 26% are plagiarism, 61% reported as not plagiarism and the remaining 13% respondents were unsure about the situation. This kind of behavior is considered as plagiarism by many academics institutions.

Question.4: This question helps to examine knowledge about the narrower form of plagiarism to get help from others i.e. use of their exact word as it is without citation in the final publication. Approximate 30% respondents report this behavior is plagiarism while 56% of respondents report this behavior is not plagiarism and the remaining 14% of respondents were unsure about the situation. Although only 30% report this situation as plagiarism remaining 70% respondents either didn’t identify this behavior as plagiarism or unsure about the actual situation.

Question.5: This question helps us in highlighting the issue of re-use any of prior work by changing their words or as it is for another assignment is considered as plagiarism. For this question, 34% of respondents consider this is plagiarism and 57% consider this as not plagiarism and remaining 9% being unsure about the true situation. “Some researcher in academics may argue this behavior as an ethically questionable or academic dishonesty but not as plagiarism (Valentine, 2006).”

Question.6: The given situation in this question helps us to identify when a student used an undefined author’s content without any credit considered as plagiarism. 65% respondents report this as plagiarism and 29% report as not plagiarism and remaining 6% being unsure. In this situation, the majority of respondents have a good knowledge of plagiarism.

Question.7: Given the situation in this question enables us to identify whether a student taking entire work of another person and claiming this as one’s own. This is one of the most popular

forms of plagiarism. 72% of respondents report this plagiarism, 21% reports not plagiarism and the remaining 7% were being unsure about the real situation.

Question.8: This question is highlighting the situation of cheating in the examination hall. To what extent cheating in

examination hall during the final exam considered as plagiarism or not plagiarism. According to the report of this study 58% of respondents report this as plagiarism, 29% report as not plagiarism and 13% didn't get an actual situation, they were unsure.

Table.1

Question No. 1 : Pawan reads an article on Rural transformation and he finds the following written information was from (Atchoarena & Sedel, 2003) and he want to use this information in his research paper.

A significant discourse on the transformation of rural areas found its inspiration in Marxist theories (Atchoarena & Sedel, 2003).

In his paper, he writes

A significant discourse on the transformation of rural areas found its inspiration in Marxist theories (Atchoarena & Sedel, 2003).

What is your view about this is to be plagiarism?

Question No. 2 : Rohan also reads the article (Atchoarena & Sedel, 2003) on Rural transformation and he want to use this information in his research paper.

A significant discourse on the transformation of rural areas found its inspiration in Marxist theories (Atchoarena & Sedel, 2003).

In his paper, he writes

In Marxist theories, its found inspiration a significant discourse on the transformation of rural area.

What is your view about this is to be plagiarism?

Question No. 3: Smisha also reads the article (Atchoarena & Sedel, 2003) on Rural transformation and he want to use this information in his research paper.

A significant discourse on the transformation of rural areas found its inspiration in Marxist theories (Atchoarena & Sedel, 2003).

In his paper, she writes

A notable discourse on the transformation of rural sector found its inspiration in Marxist theories (Atchoarena & Sedel, 2003).

What is your view about this is to be plagiarism?

Question No. 4: Ritu is a very intelligent M.A. final year's student but her writing skill in exploring the things is very poor. Ritu tells to her father that she have difficulty in writing her history paper which is coming next week. Ritu's father offers to write an important paragraph for her coming history paper. This helps Mary a lots and she write this paragraph as it is in her final exam.

What is your view about this is to be plagiarism or not?

Question No. 5 : Rohit has wrote a paper on Rural transformation for his marketing class. He does very well and get rank "A" in his Paper. Now he needs to write a paper for his entrepreneurship class on the topic of rural transformation and Development.

What is your view about this is to be plagiarism if he use his marketing paper for his entrepreneurship paper?

Question No. 6: Geeta is writing a research paper on Employability Issues. She finds some very important information on internet. But she is not sure about the actual source these information i.e. Author's name. She copies this information from the internet and pastes into her research paper.

What is your view about this is to be plagiarism?

Question No. 7: Maya is a MBA final year student. Now a days, lots of unwanted thing is going on in Maya's life except study. But she has a big paper due in next week for HRM class. Maya was not ready for this paper but she will fail the class if she does not turn it in. One of Maya's friend studying in the same class but in another section with another professor and she has a paper that can be used for the Maya's purpose. Mayas takes this paper from her friend and change the author's name by her name.

What is your view about this is to be plagiarism?

Question No. 8: Preet are setting in examination centre and attempting his Business research methodology paper. He was confused in concern of answer of a question. Then he turn around and peeking into another student's answer sheet and copy the same answer into his answer sheet.

What is your view about this is to be plagiarism?

Fig. 1. Statements in Questionnaire

Analysis of responses of questions on the basis of gender and class-status:

The responses of all the questions are analyzed on the basis of two demographic factors i.e. gender(male and female) and class status of students (postgraduates and research scholars). Non-parametric Chi-square test (independence of attribute) is used for analysis of results. There are a total of 65 respondents

out of which 41 are females and 24 are males. In this study, on the basis of gender minor differences were noted.

Responses of Questions Based on Gender: In this research on the basis of demographic factor "gender", males and females knew correctly about the plagiarism statement questions except for question statement no. 3 where females identify it correctly as plagiarism and for question statement no. 4 where it's not a plagiarism than male respondents (Table No. 2).

TABLE 2: Responses of Questions Based on Gender

	Male			Female			Chi-Square df=2
	Plagiarism	Not Plagiarism	Unsure	Plagiarism	Not Plagiarism	Unsure	
Que. No.1	11	10	2	21	16	4	2.16
Que. No.2	10	11	2	16	20	5	2.52
Que. No.3	6	12	5	22	15	4	3.23*
Que. No.4	5	17	1	9	22	10	3.95*
Que. No.5	9	13	1	13	24	5	1.8
Que. No.6	17	4	2	33	9	5	1.8
Que.No.7	12	9	2	28	7	6	2.88
Que. No.8	14	8	1	24	10	7	2.88
*P<0.01							

Responses of Questions Based on Class Status: In this research on the basis of demographic factor “class status”, post graduate students and research scholars knew correctly about the plagiarism statement questions except for question statement no. 3 where research scholars identifies it correctly as plagiarism and for question statement no.4 where it’s not a plagiarism than post graduate students respondents (Table No 3).

TABLE 3: Responses of Questions Based on Class Status

	Postgraduate			Research Scholar			Chi-Square df=2
	Plagiarism	Not Plagiarism	Unsure	Plagiarism	Not Plagiarism	Unsure	
Que. No.1	12	18	3	20	8	3	2.91
Que. No.2	13	16	4	13	15	3	3.39
Que. No.3	17	11	5	20	7	4	4.36*
Que. No.4	7	20	6	7	19	5	5.33*
Que. No.5	6	23	4	16	14	1	2.42
Que. No.6	24	5	4	26	4	1	2.42
Que. No.7	22	7	4	18	9	4	3.88
Que. No.8	22	9	2	16	9	6	3.89
*P<0.01							

7. CONCLUSION

The focus of this study was to assess the students’ consciousness of plagiarism in quality assurance. Various studies have been conducted on the plagiarism and quality assurance but less we know about the students’ awareness about quality and plagiarism. Excellent objectives, trustworthiness, proper communiqué, equality, reliability should be there for quality assurance. Self evaluation process should be used as quality assurance component. Students should be aware about what they are doing, what they want to achieve, and are they really doing what they promised? (Gertruida M. Bornman, 2004). In this study we found that

students have an understanding of plagiarism on some statements and some students are facing problem in identifying statements. They are finding it problematic to define whether including another’s information in your paper without providing any citation, utilizing someone else’s research but giving citation, and little corrections in others work is considered as plagiarism. Postgraduates and research scholars have little problem in understanding plagiarism. On the basis of gender also no significant difference was found except for few statements. The study is also limited because only two demographic factors were considered and it was limited to university students.

Further to conclude, problem of plagiarism cannot be resolved by conducting researches only. It is suggested that colleges and universities should start some quality assurance program, prepare a quality learning model for students, provide them proper guidance about plagiarism, writing quality paper and improving knowledge.

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Application of RATER Model for Ensuring Quality in Higher Education

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Abstract: India's higher education system is considered to be third largest in the world next to United States and China. In India Education system has expanded considerably at a very fast pace, there are 789 universities, 37, 204 colleges and 11, 443 stand-alone institutions in India, as per 2017 statistics from the UGC website. National Assessment and Accreditation council (NAAC) established in 1994 is the organization responsible for setting standards of higher education institutions in India as an external quality assurance Agency (EQA). Quality education in Higher Education Institutions (HEIs) is an important aspect in today's cut throat competition.

The broad objective of this research is to understand how RATER Model can help higher educational institutions and programme to improve their quality of education. The purpose of this paper is to determine the dimensions of service quality and investigate their impact on quality of higher education with special reference to Delhi Region. Quality is the most important parameter in higher education as this is the most important criteria and an essence of evaluating students satisfaction there by building positive relationship with students. Among the service quality determinants (RATER) Reliability, Assurance, Tangible, Empathy and Responsiveness have always played an important role. The purpose of this paper is to understand the dimensions of service quality with special reference to technical and functional quality as stated by Groonrose Service Quality Model. The study sample consist of 100 respondents of management education institute from the capital city of India ie., Delhi.

The population studied here is urban population both male and female which can be considered as representative of higher Education in Delhi. The data in the research is collected both through primary and secondary source. Secondary data is collected through referring to various journals, magazines, website etc. Primary data is collected through a structured questionnaire utilizing a Likert Scale. Researcher in this paper has referred to various researches being done on related topic like Kant, R., & Jaiswal, D. (2017). The impact of perceived service quality dimensions on customer satisfaction. *International Journal of Bank Marketing*, 35(3), 411–430. Mathew J., Dindy & Beatriz J. (1999), "Service quality in banking sector : the

impact of technology on service delivery", *International journal of Bank Marketing*, 17/4 182-191. Elassy 2013, Quality assurance process (QAP) in Higher Education Institutions is a very important aspect and widely practices in Institutions with the participation in students to evaluate internal processes "Student involvement" and student engagements are the terms used interchangeably where it is discussed on to improve service quality standards. There are three main aspects in student involvement in quality assurance process - opportunity, attendance and engagement.

Keywords: Quality, higher education, students, satisfaction, management education,

India has been recognized as a land of scholars and learners. In ancient time India was regarded all over the world for its universities like Takshila, Nalanda, Vikramshila and its scholars. At the time of independence India had 20 universities, 500 colleges enrolling about 2, 30, 000 students. Since independence India has progressed. As of 2017, India has 789 universities, 37, 204 colleges 11, 443 standalone institutions in India as per the statistics from UGC Website. Today India's education system is observed to be third largest within the world, next to U.S. and China. The main establishment at the tertiary level is University Grants Commission, that enforces its standards, advises the govt., and helps coordinate the activities of education in country. Accreditation for higher learning is overseen by fifteen autonomous establishments established by the University Grants Commission (UGC)

One of the most important Act that is 'Right to Education Act' which states compulsory and free education to all children within the age groups of 6-14 years, has brought about a revolution in the education system of the country with statistics revealing an increasing enrolment in schools. Today the involvement of private sector in higher education has brought drastic changes in the field. As of record over 60% of higher education institutions in India are promoted by the private sector.

It is being estimated that in future, India will be one of the largest education hubs. India's Higher Education sector has great increase in the number of Universities/University level Institutions & Colleges since independence. It is widely

recognized that higher education promotes social and economic development by enhancing human and technical capabilities of society. Technical change and Institutional change are observed to be key components of development.

Today India face the biggest challenge of providing quality education to students. Institutions must concentrate on giving quality inputs to the students. It has become need of the time that Institutions must look into constantly updating the syllabus in order to help students adapt with the changing scenario. For improvement institutes can look at making education liberal, introduce new practices & applied research work; updating the course curriculum frequently, faculty response to students, infrastructure provided to students. Both the parameter Technical quality and functional quality need to be taken care i.e., what is provided to students and how is being provided to students. The concept of technical quality and functional quality is very well explained by Gronroos Service Quality Model. If such developments take shape in its true sense in our country students would be attracted to pursue higher education which will in turn fulfill corporate expectations. Efforts should also be taken to guide, mentor students in a way that helps in retaining interest of students.

Challenges in Higher Education in India

Enrolment, Equity, Quality, Infrastructure, Political interference, Faculty, Accreditation, Research and Innovation, Structure of higher education

1. RESEARCH METHODOLOGY

Research is a contribution to the existing store of knowledge. Research methodology is a way to systematically solve the research problem. It is the science of studying how a research is done. The researcher has explained the methods and steps adopted for achieving the purpose of the study and to arrive at a meaningful conclusion. The Exploratory Research Design has been adopted by emphasizing the quality of education being provided in Management Institutes in Delhi region.

One of the first measures to be developed specifically to measure service quality was the RATER Scale and further analyzed with the help of Gronroos Service Quality Model.

Sampling Plan

The present study was conducted in Delhi specifically focusing on students pursuing higher education, i.e., PGDM/MBA. These students are selected for the study because management education Institutes are facing the challenges in students admission.

Sample Size & Method

In total, 100 students were contacted for gathering data. For the study, Non Probabilistic sampling method has been used and in that convenience and judgment sampling approach was adopted.

Sample Units

A sample Unit is a part of the target population carefully selected to represent that population. Students pursuing management course has been selected for the study. The study area was confined to Delhi city and sample has been chosen from there.

Types of Data

Data are the base providing information which helps in research for the study.

Data collection comprises of primary and secondary data for the study. A questionnaire was designed to collect the primary data from the students of Management Institute. The questionnaire consists of various questions focusing on the issue of perception of students on different parameters and satisfaction level towards quality of education being provided by their Institute in Delhi. Gronroos Service Quality Model has been used to find out the service quality of the management education Institutes.

The secondary data was collected from related journals, publications and from web-sites and few popular search engines.

Data Analysis and Interpretation:

In order to evaluate the feasibility of the research proposal, a survey was conducted through distribution of questionnaires to a group of 100 respondents of Management Institutes. Based on the information provided by the respondents, the questionnaires were analyzed using statistical tools apt for the study. The analyzed data has been presented with the help of charts and tables.

2. OBJECTIVES

- To measure and analyze the quality of education provided by Management institutes using RATER Scale in Delhi Region
- To measure the students satisfaction in management institutes by analyzing two parameters i.e., s technical and functional Quality using Gronroos service Quality Model.

Measuring Service Quality

SERVQUAL is used to measure service quality as a multi-dimensional construct across five dimensions: tangibility, reliability, responsiveness, assurance and empathy. The five dimensions are explained in detail below:

Tangibility: the physical appearance of the facility which includes materials, equipment and personnel. This enhances the image of the institute and provides a more positive image in the way the students perceives the service.

Reliability: this refers to service reliability, which is different from product reliability and involves the service provider to be able to perform the services accurately and dependably.

Responsiveness: the readiness to provide timely service by the service provider. This includes paying attention to the students, and dealing with the student's complaints and problems in a timely manner.

Assurance: the ability to deliver services at a professional level. This includes the faculties knowledge and courtesy which inspires confidence in students. Having trust and confidence in faculties leads to students having more trust in the Institute.

Empathy: the ability to understand students needs and to give personal attention. This includes the ability to show to students that institute cares about him/her because they know how valuable s/he is. Understanding their needs and providing him/her with personalized services.

Gronroos Service Quality Model

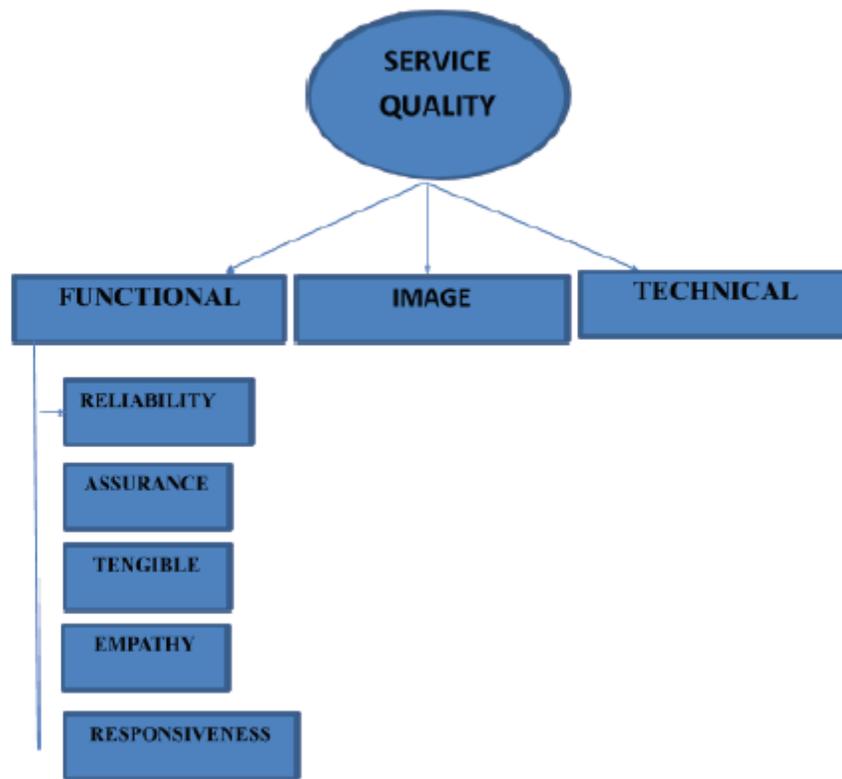
SERVQUAL is a method to identify and solve problems related to quality of services. It was presented by A. Parasuraman, V. Zeithaml and L. Berry in 1988.

Grönroos has identified three dimensions of service quality: technical, functional and image. .

Technical quality - what customer receives as a result of interaction with the company, and which is important for him/her to evaluate the quality of service.

Functional quality - how the customer gets the technical outcome, which includes: communication, competence, staff, etc.

FIGURE 1



3. LITERATURE REVIEW

1. **Padmini Swaminathan, (2005)** in the paper on “Making sense of vocational education policies a comparative assessment” begins by describing the nature of problems encountered by the present system of providing 'vocational education to the youth in India, It then proceeds to describe the vocational education in place in

Germany and Japan in particular, and the contrasting experience of South Korea to some extent in order to emphasize the range of institutions that need to be created, and the depths of coordination needed between seemingly antagonistic players in the field.

2. **DR. JD Singh (2011)**, in his paper on “Higher Education in India – Issues, Challenges and Suggestions” throws

light on stating that “Now the time has come to create a second wave of institution building and of excellence in the fields of education, research and capability building”. We need higher educated people who are skilled and who can drive our economy forward. We can transfer our country from a developing nation to a developed nation very easily and quickly.

3. **Dr. K.M. Joshi (2013)** in his paper on “Indian higher education: some reflections”, tried to through light on how Quality and efficiency policy responses and their endeavors have been insufficient accompanied by poor regulations and its subsequent implementation. Multiple regulations and measures have been envisaged by different commissions and committees to enhance the access, quality and equity to face the challenges of opening-up this sector globally.
4. **Dr. K. Kamar Jahan, and Dr. D. Christy Selvarani (2015)**, the study is unique in the sense that it brings about better understanding of the present scenario in the higher education system in the country and its pattern of growth gives the opportunities and challenges to the system under consideration. The researcher throws a gainful insight on financing schemes and enrolment aspects of higher education in India.
5. **Kirti Matliwala (2016)**, “Present Scenario of Higher Education in India”, The author in this paper mainly

focused on the overall scenario of higher education in India. The paper aims to identify issues and challenges in the field of higher education in India. Finally, the paper concluded by stating all stakeholders have to make jointly effort to get solutions of the problems in higher education in India.

6. **Younis Ahmad Sheikh (2017)**, in the study on “Higher Education in India Challenges and Opportunities, ” tries to high light challenges and point out the opportunities in higher education system in India.
7. **Nitesh Sanklecha (2017)** “Current Scenario of Higher Education in India” The author in the paper has made an attempt, to identify and discuss a number of problems & challenges faced by ‘Higher Education’ in India. The paper is an outcome of a review of a substantial number of secondary sources on the current problems and challenges of higher education in India.

4. ANALYSIS AND INTERPETATION

Data analysis and interpretation is the process of assigning meaning to the collected information through data collection and determining the conclusions. It is one of the most important and exciting step in the process of research. In all research studies, analysis follows data collection.

TABLE 1

RELIABILITY	STRONGLY DISAGREE	DISAGREE	NEITHER DISAGREE NOR AGREE	AGREE	STRONGLY AGREE	MEAN
When Institute promise to do something by a certain time, the promise is always kept.	15.30%	10.50%	50.00%	10.50%	13.70%	0.20
When students complain or have problems, Institute /faculties show great concern for solving them.	6.50%	15.90%	50.00%	15.90%	11.70%	0.20
Institute works on error free records	6.60%	12.00%	45.70%	12.00%	23.70%	0.20
MEAN	0.09	0.13	0.49	0.13	0.16	

This above table depicts that how much promising the institute is and how blindly can students trust them. We tried to check this via four parameters like Institute promise, students complain, error free record the data clearly reveals maximum students response is towards neither agree nor disagree means neutral opinion of students. Looking to table it clearly reveals that maximum satisfaction is towards error free record.

TABLE 2

ASSURANCE	STRONGLY DISAGREE	DISAGREE	NEITHER DISAGREE NOR AGREE	AGREE	STRONGLY AGREE	MEAN
The behavior of faculties in still confidence in students	14.10%	57.60%	25.00%	2.20%	1.10%	0.20

Students feel safe and confident when transacting with faculties of school.	17.40%	58.70%	18.40%	4.40%	1.10%	0.20
Faculties of Institute are always friendly and courteous.	3.30%	55.40%	15.20%	2.20%	23.90%	0.20
Faculties of Institute possess knowledge to answer questions of students	2.20%	65.20%	12.00%	5.40%	15.20%	0.20
MEAN	0.09	0.59	0.18	0.04	0.10	

The above table depicts the assurance and trust which students build up on teachers and whether they are doing justice to that trust. More than half of the students do not agree to the fact that the behavior of faculties, confidence of students in faculty, friendly behavior of faculty and about knowledge of faculty more than half of the students are not satisfied on this parameter. Maximum emphasis of this parameter is on faculties.

TABLE 3

TANGIBLE	STRONGLY DISAGREE	DISAGREE	NEITHER DISAGREE NOR AGREE	AGREE	STRONGLY AGREE	MEAN
Your Institute have modern looking equipment	3.20%	12.00%	14.10%	59.80%	10.90%	0.20
Physical facilities of your Institute are visually appealing	3.30%	8.70%	22.80%	54.30%	10.90%	0.20
Faculties of your Institute are dressed properly and have neat appearance	3.70%	13.50%	13.00%	63.00%	6.80%	0.20
Tools associated with teaching are visually appealing	5.80%	6.00%	22.00%	56.60%	9.60%	0.20
MEAN	0.04	0.10	0.18	0.58	0.10	

This above table illustrates how well organized and aesthetic the institute establishments are and how much advanced technologies are being provided. We have considered four parameters i.e., modern looking equipment, physical facilities, faculties appearance and tools associated with teaching to check upon and prove the tangibility element of the institutes. The calculation clearly reveals that maximum students opinion is favorable i.e., they agree to what is being provide so they are satisfied with this dime

TABLE 4

RESPONSIVENESS	NEVER	RARELY	OCASSIONALLY	OFTEN	ALWAYS	MEAN
Faculties of the Institute will tell exact content of lesson to be delivered	3.30%	37.00%	37.00%	14.00%	8.70%	0.20
Faculties of the Institute gives prompt solution to problems raised by students.	2.20%	38.00%	34.80%	16.90%	8.11%	0.20
Faculties of the Institute are always willing to help students	2.20%	50.00%	30.40%	12.00%	5.40%	0.20
Faculties of the Institute are never busy to help students immediately	5.40%	30.40%	31.50%	20.70%	12.00%	0.20
MEAN	0.03	0.39	0.33	0.16	0.09	

The above table throws light on the responsibility an institutes should take up for students and whether he agree that they are properly taken care off. We considered four parameters to check upon this i.e., content of lesson, solution to problem, faculties helping Students and immediate response of faculties the calculation clearly reveals students are not satisfied on this parameter as maximum response is on rarely which shows responsiveness parameter is weak and students are not satisfied.

TABLE 5

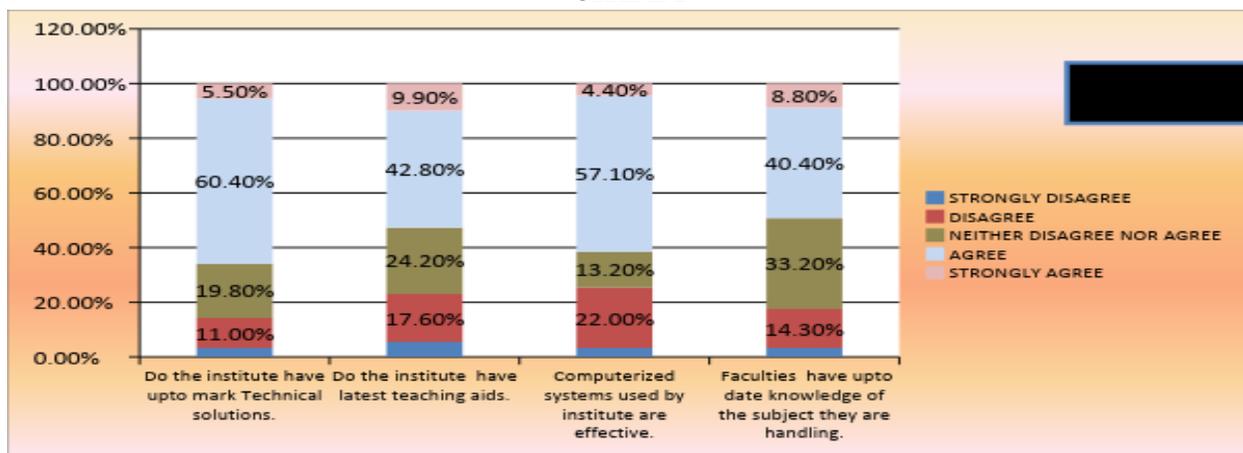
EMPATHY	NEVER	RARELY	OCASSIONALLY	OFTEN	ALWAYS	MEAN
Institute pays attention to each student individually	3.3%	33.00%	33.70%	17.00%	13.00%	0.20
Institute timings are convenient to students	6.50%	17.60%	41.30%	27.20%	7.40%	0.20
Faculties give personal attention to each student.	2.2%	23.30%	34.40%	23.90%	16.20%	0.20
Institute have students best interest at heart.	4.30%	32.70%	28.20%	28.30%	6.50%	0.20
Institute have faculties who can understand the specific needs of students	3.3%	28.30%	38.00%	15.20%	15.20%	0.20
MEAN	0.04	0.27	0.35	0.22	0.12	

The above table throws light on most important parameter i.e., empathy which depicts care for students. This parameter is analyzed using criteria's like individual attention to students, timings, students interest, understanding specific needs of students. Calculation in the table clearly shows that respondents occasionally perceive this means students are neither satisfied nor dissatisfied.

TABLE 6

TECHNICAL QUALITY	STRONGLY DISAGREE	DISAGREE	NEITHER DISAGREE NOR AGREE	AGREE	STRONGLY AGREE	MEAN
Do the institute have upto mark Technical solutions.	3.30%	11.00%	19.80%	60.40%	5.50%	0.20
Do the institute have latest teaching aids.	5.50%	17.60%	24.20%	42.80%	9.90%	0.20
Computerized systems used by institute are effective.	3.30%	22.00%	13.20%	57.10%	4.40%	0.20
Faculties have upto date knowledge of the subject they are handling.	3.30%	14.30%	33.20%	40.40%	8.80%	0.20
MEAN	0.04	0.16	0.23	0.50	0.07	

GRAPH 1

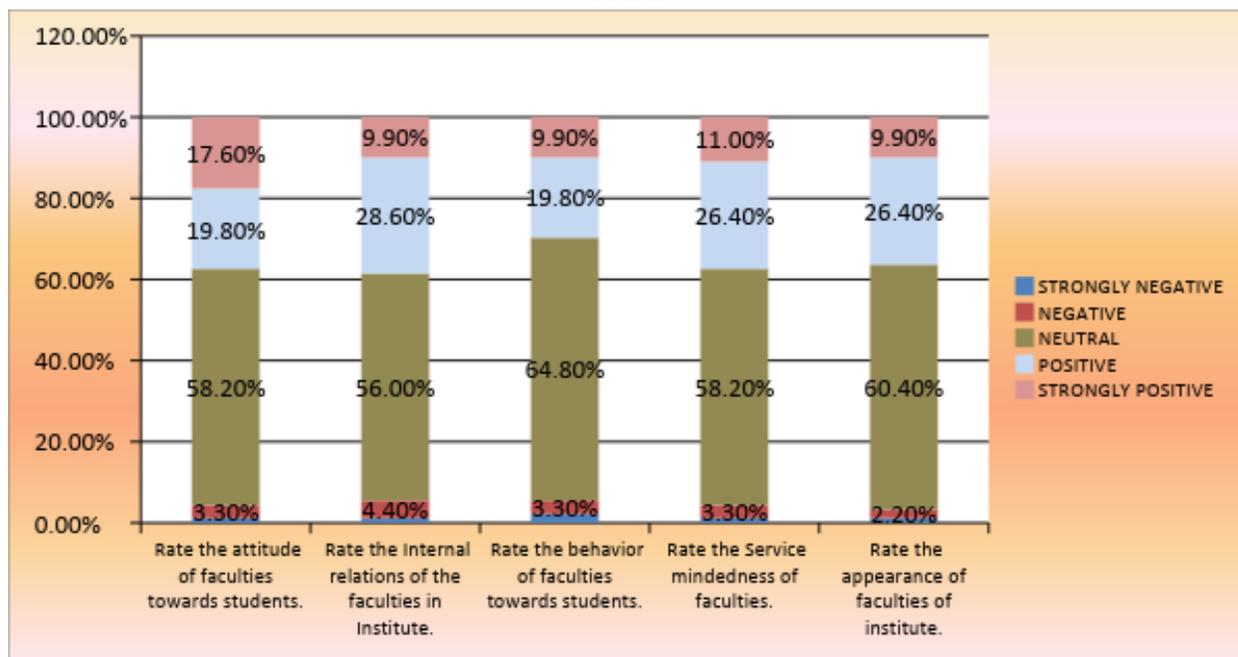


Above graph depicts the wholesome technical aspect of the institutions and whether institute is upgraded with new technology. We have considered four parameters to analyze this. First, do the institute have upto mark Technical solutions more than half of the students agreed to this more than half of the people agreed i.e 60.40% while only few i.e 3.3% strongly disagreed. Second, do the institute have latest teaching aids so 42.80% agreed, 24.20% were confused only few i.e 5.5% strongly disagreed. third, are computerized systems effective more than half i.e 57.10% agreed and only handful of people could strongly agree and large proportion also disagreed i.e 22%. fourth, whether Faculties have upto date knowledge of the subject they are handling on this how ever majority agreed i.e \40.40% whereas 33.20% were in dilemma and a significant number i.e 14.30% disagreed as well.

TABLE 7

FUNCTIONAL QUALITY	STRONGLY NEGATIVE	NEGATIVE	NEUTRAL	POSITIVE	STRONGLY POSITIVE	MEAN
Rate the attitude of faculties towards students.	1.10%	3.30%	58.20%	19.80%	17.60%	0.20
Rate the Internal relations of the faculties in Institute.	1.10%	4.40%	56.00%	28.60%	9.90%	0.20
Rate the behavior of faculties towards students.	2.20%	3.30%	64.80%	19.80%	9.90%	0.20
Rate the Service mindedness of faculties.	1.10%	3.30%	58.20%	26.40%	11.00%	0.20
Rate the appearance of faculties of institute.	1.10%	2.20%	60.40%	26.40%	9.90%	0.20
MEAN	0.01	0.03	0.60	0.24	0.12	

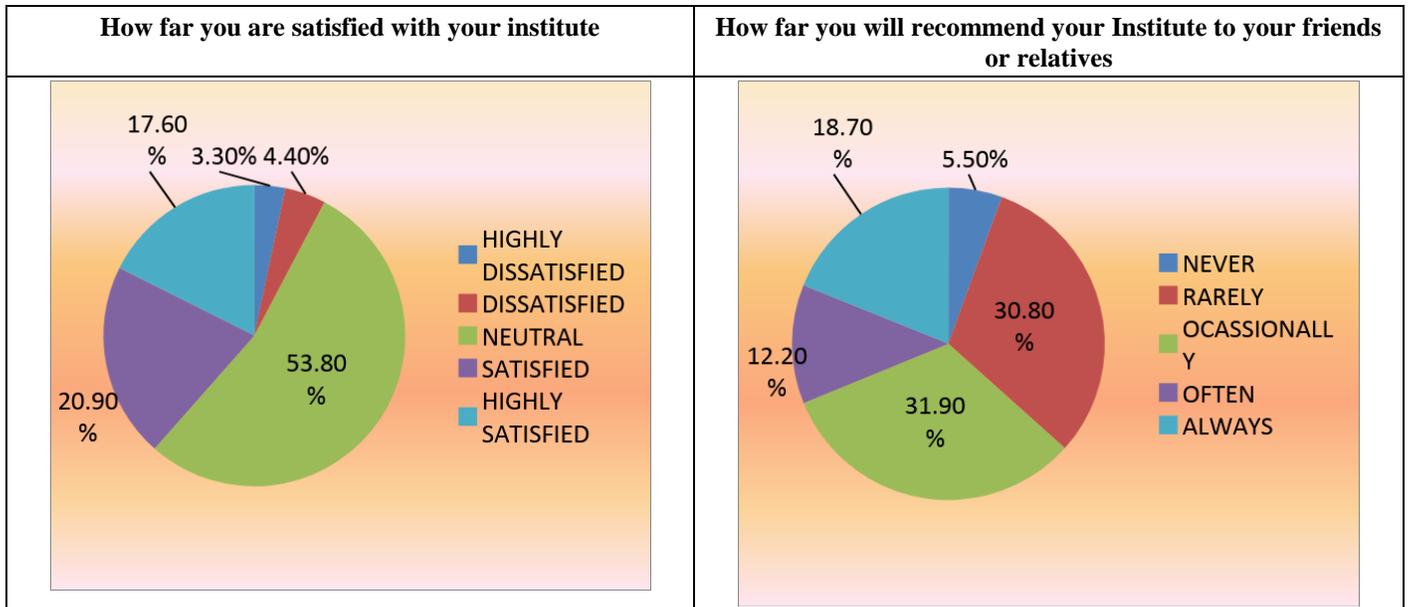
GRAPH 2



Above graph depicts how efficiently the faculties function, behave, keep up the relations at the work place. Five parameters are being analyzed to have clear opinion of students on how the services are being provided. First parameter is rate the attitude of faculties towards students on this students response is neutral with response of 58.20%, 19.80% gave positive response, 17.6%

gave strongly positive response and only handful of people i.e 1.1% and 3.3% gave strongly negative and negative response resp. second, checked on internal relations between faculties, majority i.e 56% students responded neutral and positive is 28.6% and handful of people gave strongly negative response i.e 1.10%. third, the behavior of faculties towards students majorly i.e 64.80% responded neutral, looking to the appearance of the faculty also major students have neutral response.

GRAPH 3



5. CONCLUSION

No doubt India continues to face stern challenges despite growing investment in education. The quality of education in India whether at primary or higher education needs significant improvement as compared to major developing nations of the world.

1. On reliability parameter students response is neutral as maximum students have responded to neither agree nor disagree.
2. Looking to tangibility element maximum students are satisfied they are happy with infrastructural facilities and appearance of faculties.
3. On responsiveness parameter students are not at all happy as maximum have responded to rarely means they are not getting response from faculties this could be due to multiple reasons like over loaded faculties or low motivation amongst faculty members.
4. Assurance parameter is weak as maximum students disagree on this parameter this means they lack confidence in faculties and Institute at large.
5. On empathy parameter maximum students response is towards occasionally, this shows institutes are incapable to understand students concern which is very important for brand building of any institute.

6. When we tried to analyze technical and functional quality students response is positive on technical quality where as there response is neutral on functional quality. Technical quality is what is being provided and functional quality is how it is being provided. As per the requirement of educational institutes more importance is towards how is being provided as this results in emotional bonding of students towards institutes, which is need of the time.
7. Last but not least parameter is image building where again students response is neutral when they were asked about their satisfaction level towards institute their response was neutral at same time when they were asked whether they will refer their institute to others again their response was occasionally.
8. Today in this highly competitive world survival of fittest is highly applicable mantra, so management institutes are suppose to provide high quality of education i.e., services to students.

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Knowledge Management: Issues & Challenges for the Indian Health Sector

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ABSTRACT

Purpose: To understand the Indian health scenario, identify the key issues, challenges and opportunities the sector faces and how Knowledge Management can be a means to address these challenges.

Managerial Implications: This research reviewed the current strategies across various developed and developing countries in the field of Knowledge Management in the Health sector. It appears that the Indian health sector is facing certain key challenges and its different stakeholders, especially the government and regulatory agencies can play a key role to use Knowledge Management to bridge the gaps in this sector. However, the choice of Knowledge Management strategy is dependent on certain key issues and requires a long-term view of the Health Sector. The research has tried identify these key parameters that will define the Knowledge Management strategy to be followed and also highlighted the barriers / challenges to the choice and implementation of the most appropriate Knowledge Management strategy. A common and integrated Knowledge Management strategy / framework will be able to deliver integrated healthcare services to not only the urban communities but also the rural communities specifically and the usefulness of such a system can only be discussed in retrospect.

Value: The research has identified the key challenges as well as Critical Success factors for a Knowledge Management framework for India and is of strategic importance to healthcare professionals, researchers and policymakers interested in designing the healthcare delivery at the national level in India.

Keywords: Knowledge Management, Healthcare, critical success factors.

1. INTRODUCTION

Health is a fundamental human right and a global social goal. It is pertinent for the realization of basic human needs and for a better quality of life. Health is a causative factor that affects country's aggregate level of economic growth. Since development is a consequence of good health, even the poorest

developing countries should make it a priority to invest in the health sector. Unfortunately, health has been poorly invested in by countries with low human development, and the health sector still remains largely. India's rank in the **Human Development Index Report 2018 (130 out of 189 countries)** issued by the UNDP depicts the level of ignorance of the health sector in a country like India.

One of the most critical issues plaguing the Health Sector in India is the lack of basic health information, however and even greater issue is the unavailability of Information Technology systems to exploit the available information to solve health problems. As a consequence, the available information fails to be transformed into effective health care actions to combat health issues. The discipline of knowledge management (KM) aims to bridge this gap. An effective Knowledge Management Framework in health can ensure that the limited information can be transformed into treatment guidelines, proactive government policies and new medical strategies. Although KM is often thought of as simply providing solutions that are limited to information technology (IT), in actual practice KM can be a single IT tool to capture and harness limited information through collaboration in order to solve problems most issues in the health sector. This research is one such step in this direction for the Indian Health scenario.

1.1 Purpose

To understand the Indian health scenario, identify the key issues, challenges and opportunities the sector faces and how Knowledge Management can be a means to address these challenges.

1.2 Importance of the purpose

With the exponential increase in the amount of literature in the form of medical textbooks, journals, patient records and health care guidelines, the management of existing knowledge has become critical. The health sector contains an extremely specialized body of knowledge and much of sector's success is dependent on the tacit knowledge the health care professionals hold. It thus becomes imperative that a common mechanism to capture and share this collective wisdom is available. A knowledge Management framework can be useful for the health sector in the following ways: -

- To manage and integrate information across multiple sources
- To enable a collaborative knowledge sharing platform where information can be shared at the local, state and national levels.
- To ensure lesser response time and better preparedness for both public and private sector health organizations when critical health issues arise.(e.g Swine flu)
- Primary, secondary and tertiary care institutions typically under the state and central public sector health administration
- Medical and Nursing institutions to train the needed manpower
- Special Health care program institutions and their state level project managers
- Health management information system consisting collect, collate and analysis trends in the Health sector.

1.3 Expected outcomes of the research

This research is an initial step in the direction for the implementation of a Knowledge Management framework for the Indian health sector. The expected outcomes of this research are:-

- Understanding the Health care system in India
- Recognizing the key drivers for a Knowledge Management system in Health
- Evaluating the current challenges for a common Knowledge Management framework for Health in India
- Barriers for applying Knowledge Management in health for India.
- Understanding the differences in the Rural and Urban health sector.
- Evaluating the strategy to follow for a Knowledge Management Framework in the Health Sector

1.4 Knowledge Management – Defined

Knowledge Management is about applying the collective knowledge of the entire workforce to achieve specific organizational goals. It is about facilitating the process by which knowledge is created, shared and utilized. Two critical issues in Knowledge Management are the ability to learn and handle knowledge. This typically requires new design alternatives along with new information and communication systems (ICT) to support the smooth flow of knowledge which consequently can be defined as a Knowledge Management System.

2. KNOWLEDGE MANAGEMENT AND THE HEALTHCARE SECTOR IN INDIA

2.1 Understanding the Healthcare Sector in India

The entire Health care system in India is divided into the organized and the unorganized sectors.

A large part of the medical services in India are still provided by small groups of medical practitioners within their small clinics. However, with the entry of bigger private players, the organized medical service providers such as hospitals and multi- specialty clinics are becoming popular among the younger Indian customer base. The Health care system in India has the following key structural elements: -

The Decentralized structure in the healthcare sector is typically to enable faster delivery of health services; however this also leads to lack of quality control. Moreover, qualified medical workforce is still a major challenge with the large population which requires health facilities. To summarize, the entire health sector contains unconnected disaggregate group of primary, secondary and tertiary health care units which are largely operating with minimal support in terms of workforce and health care equipment and support. Most of these units are operating under largely independent set of rules, which leads to non-standardized medical service delivery processes also leading to the large scale perception of inadequate and unsatisfactory health care services in India. Given the hierarchical structure in which the health care sector is organized, a collaborative knowledge sharing platform can greatly improve health care delivery and enable the acceptance and promotion of best practices in medical service delivery in the country and this research paper attempts to understand the most appropriate framework for such a Knowledge Management project.

2.2 Current Information and communication infrastructure for health in India

India is one of the fastest growing economies of the world. The very essential components of primary health care promotion of food supply, proper nutrition, safe water and basic sanitation and provision for quality health information concerning the prevailing health problems that is largely ignored. Access to healthcare services, provision of essential medicines and scarcity of doctors are other bottlenecks in the primary health care scenario.

One of most typical challenges in regard to the Information and communication revolution in India has been the gathering of statistics for the penetration of such technologies. This leads to the “digital divide”. India is an extremely large and diverse country with wide variations in radio, television, telephonic and internet penetration. This deeply affects the ability of the country to define a common information and communication technology which can form the backbone for an Integrated Knowledge management platform. Within the health community information is the main product and health workers depend heavily on accurate and timely information. Improving information and communication infrastructure can lead to increased economic exploitation of common knowledge

essential to the development of an integrated knowledge management framework. Thus, some of the key joint actions to be taken by the government are listed below.

- Establishment of a culture of knowledge sharing
 - Setting up sustainable information and communication infrastructure to improve access to health information
 - Effective utilization of information into health initiatives
1. Such initiatives should be one of the key initiatives at the national level. The most appropriate strategy should be via public and private partnerships. Such an exercise like the ITC e-choupal have already gained global accolade and their benefits are not sector dependent and can lead to overall development of the nation. India spends 1.4% of GDP on health, less than Nepal, Sri Lanka. (Source: India Spend, January 2018).
 2. 70 percent of the overall household expenditure on health in the country is on medicines. (Source: WHO)
 3. An estimated 469 million people in India do not have regular access to essential medicines. (Source: WHO)
 4. While 63% of primary health centres did not have an operation theatre and 29% lacked a labour room, community health centres were short of 81.5% specialists—surgeon, gynecologists and pediatricians. (Source: India Spend, January 2018)
 5. In 2014, 58% Indians in rural areas and 68% in urban areas said they use private facilities for inpatient care, according to the 71st round of the National Sample Survey (Source: India Spend, January 2018)
 6. Various studies have shown the rising out-of-pocket expenditures on healthcare is pushing around 32-39 million Indians below the poverty line annually.
 7. Heart disease (1/4 people) and stroke is the biggest killer of men and women in India.
 8. 7% of Indians fall below the poverty line just because of indebtedness due to this expenditure, as well as that this figure hasn't changed much in a decade. About 23% of the sick can't afford healthcare because of these payments.
 9. 55 million Indians were pushed into poverty in a single year due to unaffordable healthcare. (PHFI, 2018)
 10. 33 out of 55 million fell under the poverty line due to expenditure on medicines alone. (PHFI, 2018)

3. KNOWLEDGE MANAGEMENT IN HEALTH IN INDIA

3.1 Eliciting the underlying motivations of a Knowledge Management framework for India

While Knowledge Management frameworks in health have already been formulated as well as successfully implemented in a number of developed countries, such a framework for India has some key distinctions. This is typically due to the largely dissimilar socio-economic conditions here. India is the second largest country in terms of population, however it

stands first as far as growth in population is concerned. Thus, a knowledge management framework will typically require much more scalability and reach in terms of not only geography but also in terms of the different services in medicine. This makes a knowledge management framework being motivated by certain key underlying intensions. Some of the key motivations are listed below.

- Highly scalable and collaborative KMS
- Accurate and Timely delivery of health services
- Localization of health services
- Operation of health networks in low resource settings

Moreover, given the large amount of investment such a system both in terms of planning as well as implementation such a Knowledge Management system requires, it becomes essential that the choice of such a strategy is taken using a proactive means which shall ensure that a shareable and sustainable knowledge Management strategy for health emerges.

3.2 Key Accelerators for Knowledge Management in Health in India

If we were to carefully assess the need for a common national level integrated Knowledge Management strategy formulation, some key factors emerge. These key elements have lead to the accelerated need for such a common framework. Moreover, not only do these elements define the choice of the Knowledge Management strategy in the healthcare segment, they also decide the subsequent penetration and eventual success of this framework. It thus becomes important to recognize as well as understand the impact of these elements on the KM strategy. The figure below lists some of these key elements as well as the impact they have on the health care segment.

Figure 1: Key Elements and Their Impact on the Health Care Scenario in India



Thus, the choice and subsequent success of a Knowledge Management strategy must not only understand these elements but also evaluate the impact they have on the end customer. By understanding the interrelationships between these elements, a more sustainable and better accepted solution strategy can emerge which can greatly enhance the chances of success of a KM strategy for health.

3.3 Key challenges to an Integrated Knowledge Management Strategy for Health in India

To effectively understand the key challenges an Integrated Knowledge Management strategy for Health in India faces, we

much understand some key challenges the nation faces as a whole.

There are several barriers to applying Knowledge Management in Health. These are depicted below in the attached diagram. Managing the implicit (tacit) health knowledge faces a number of challenges related to human behavior and to social and cultural aspects of populations in the Region. Other challenges related to the management of both implicit and explicit knowledge assets and institutions in the Region are then only inflated and thus lead to an even greater barrier to implementing the Knowledge Management framework in India. The figure below depicts this.

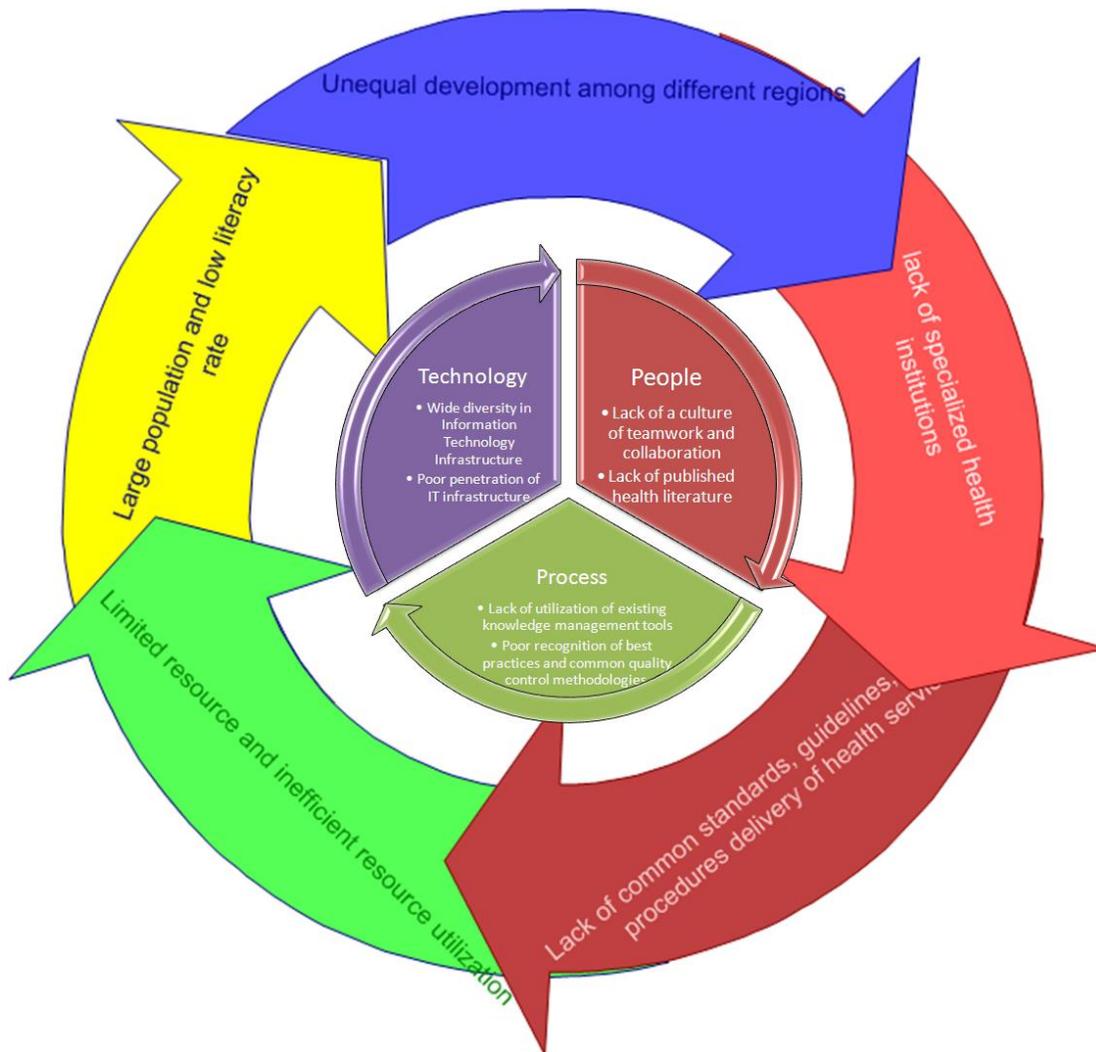


Fig. 2. The Major Barriers to a Common Knowledge Management Strategy in India and Issues with Different Knowledge Management Elements.

In response to these challenges discrete initiatives need to be developed with both internal and external partners. These projects will work to further accelerate the development of knowledge management practices in the wider public health

sector. One other critical barrier is the localization of knowledge in India. Most previous attempts have failed to address the local knowledge and the impact it has on effective delivery of health care services. This has further hindered the

acceptance of a common KM system for health. This resulted in low usage of such a system. For successful KM implementation these key challenges must be addressed both at the district, state as well as the national level.

3.4 Rural / Urban Divide in Health

India is known for its diversity. There is a sharp disparity in rural and urban India, not on in terms of social and economic factors but also in terms of the indicators of health that impact health service needs and their delivery. Rural India is still ridden with issues of exclusion of some communities, gender disparity, lack of birth control etc. Hence, their key health challenges still revolve around basic issues. Urban India has access to good infrastructure including participation from private players which is missing in rural India. Moreover, they have access to latest medical practices including world class medical delivery methodologies. Thus, most of the medical statistics clearly might not reflect the actual scenario and might be ineffective in deciding corrective medical strategies. A fair measure of assessing our Health infrastructure should be its

ability to bridge this disparity between rural and urban India. Our Knowledge Management framework must thus incorporate further factors that shall define its success, since the success of the Health Sector is extremely dependent on the infrastructure it will create for India.

3.5 Set up of a Knowledge Management Strategy for Health in India

A common and integrated Knowledge Management strategy for Health in India can be especially useful for addresses national challenges such as poverty, malnutrition and child mortality. However, the effective use of information and communication technology in health still has to address key concerns like privacy and patient confidentiality. Moreover, the transmission, storage and electronic retrieval of clinical information for education and administrative purposes shall need further intervention by common regulatory authorities. Once such a structure is set we can see great benefits for healthcare delivery in India. The figure below summarizes the key benefits of such a common framework.

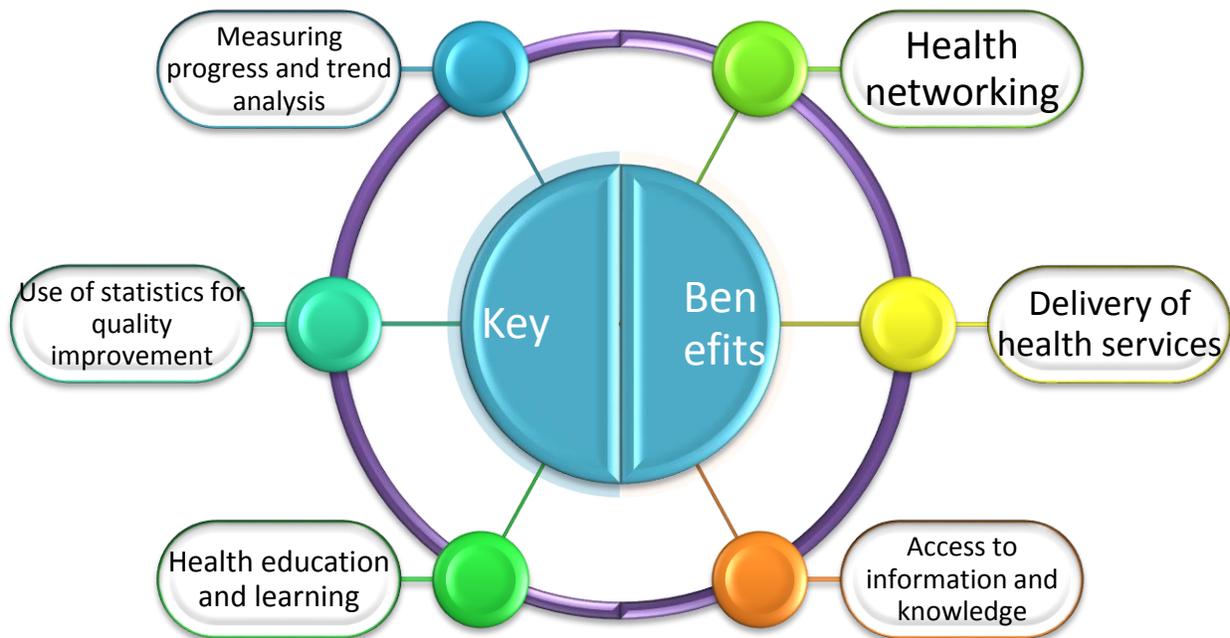


Fig. 3. The Key Benefits of a Common Integrated Knowledge Management Strategy in Health

According to the United Nations report on Health, Information and Communication Technology can help alleviate poverty, improve the delivery of education and health care, make cooperation with the private sector, and make available the benefits of new technologies, specifically information and communications”. Using Information and Communication

Technology infrastructure we can effectively, generate and promote knowledge management. The figure below illustrated the three pillars of the common Knowledge Management strategy; India should support to implement a sustainable healthcare strategy.

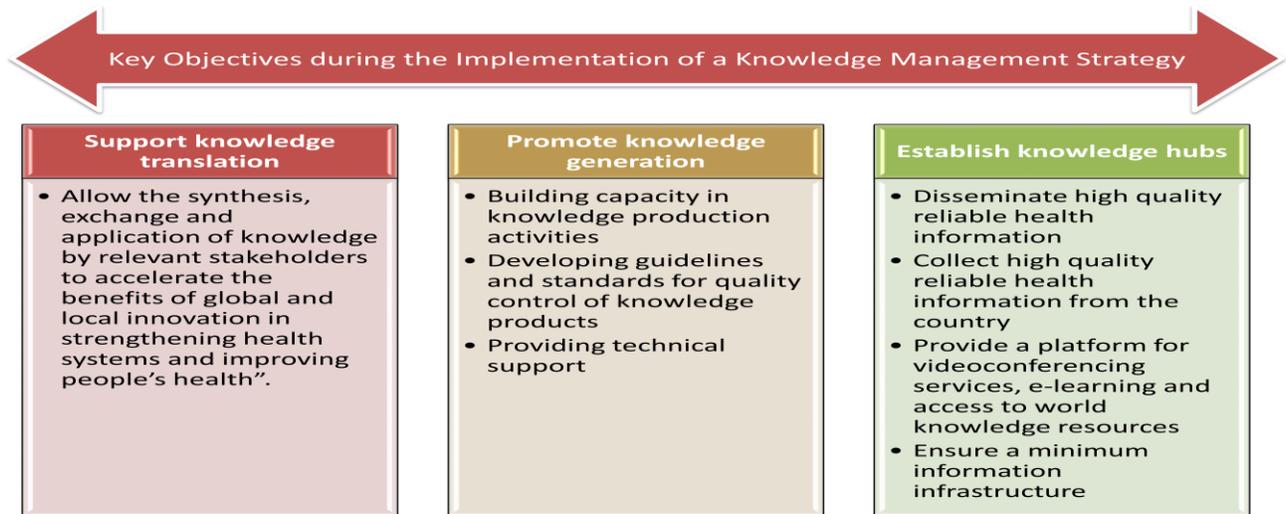


Fig. 4. Key Objectives for the Implementation of aKM Strategy for India

Evaluating Knowledge Management Frameworks in Health

While setting up a Knowledge Management framework is simple, it is essential that we track and measure the performance of a Knowledge Management Framework. This is very useful, since it will allow for taking corrective action for the Knowledge Management Framework. Such evaluative criteria would further be prepared at different levels in the framework. Some Key Criteria that any healthcare framework must measure and validate are:-

- Clinical Outcomes

- Clinical Process improvements
- Provider Acceptance
- Patient Acceptance
- Financial Improvements

However, the different criteria need to be measured at the district, state and national level. These parameters may further be divided into measurable parameters which might be different at different levels in the hierarchy as depicted in the figure below.

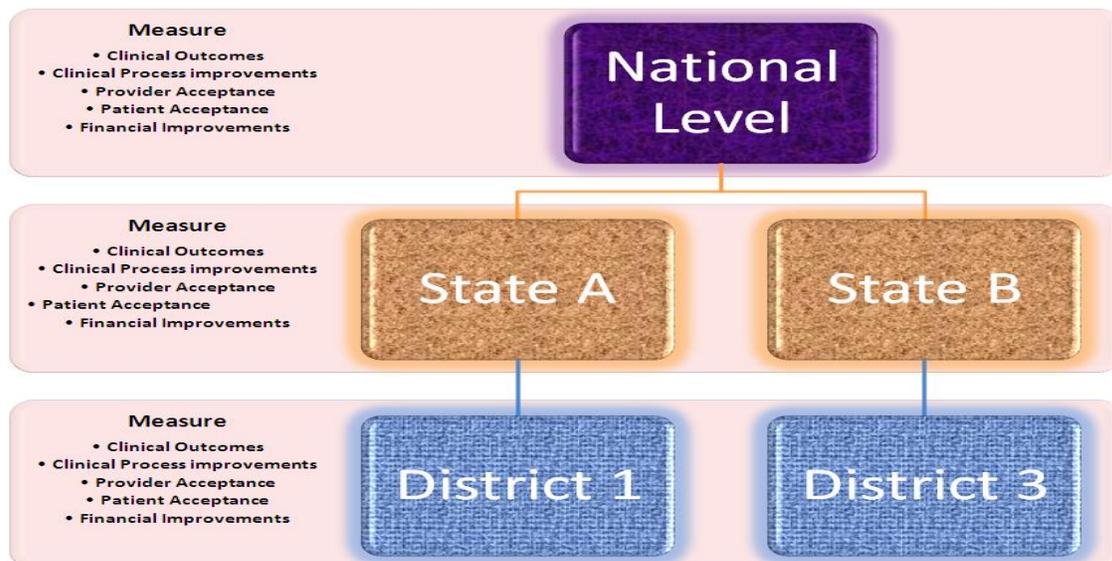


Fig. 5. A Evaluative Framework for aKM Strategy in Health

This evaluation framework can ensure that the Knowledge Management strategy is implemented in the correct way and in case of any gaps corrective actions can be taken in time.

In India, there is one government allopathic doctor for every 10, 189 people, one government hospital bed for every 2, 046 people and one state-run hospital for every 90, 343 people.

You don't need an epidemic, however predictable, for the public health system to collapse. It is a matter of routine that patients share beds and doctors are overworked.

India has a little over one million modern medicine (allopathy) doctors to treat its population of 1.3 billion people of these, only around 10% work in the public health sector, shows data from the National Health Profile 2017.

The shortage of health providers and infrastructure is the most acute in rural areas, where catastrophic health expenses push populations the size of United Kingdom into poverty each year.

Add apathy and you have bodies of the dead being mutilated by dogs in hospital morgues, people carrying home their dead children because the hospital refused them a hearse, and tragedies like the hundreds of infant deaths in Gorakhpur's Baba Raghav Das (BRD) Medical College every year.

BRD Medical College Hospital's failure to save lives points to a systemic rot in public healthcare delivery, which is saddled with problems of mismanagement and inadequate resources infrastructure and human.

Despite being routinely flagged, these shortages are seldom corrected. Learning from failure is rare, and course correction after mistakes is rarer.

This brings us to critical questions: Can such deaths be prevented? How can India's public health system deliver quality care? Will public hospitals just end up being places where the sick go to die?

Where are the doctors?

India doesn't have enough hospitals, doctors, nurses and health workers, and since health is a state subject, disparities and inequities in the quality of care and access to health varies widely not just between states but also between urban and rural areas.

Where are the doctors?

India has 1 million doctors of modern medicine (allopathy) to treat its 1.3 billion populations. Of them, just 1.1 lakh work in the public health sector, to which India's 900 million rural population turns for treatment.

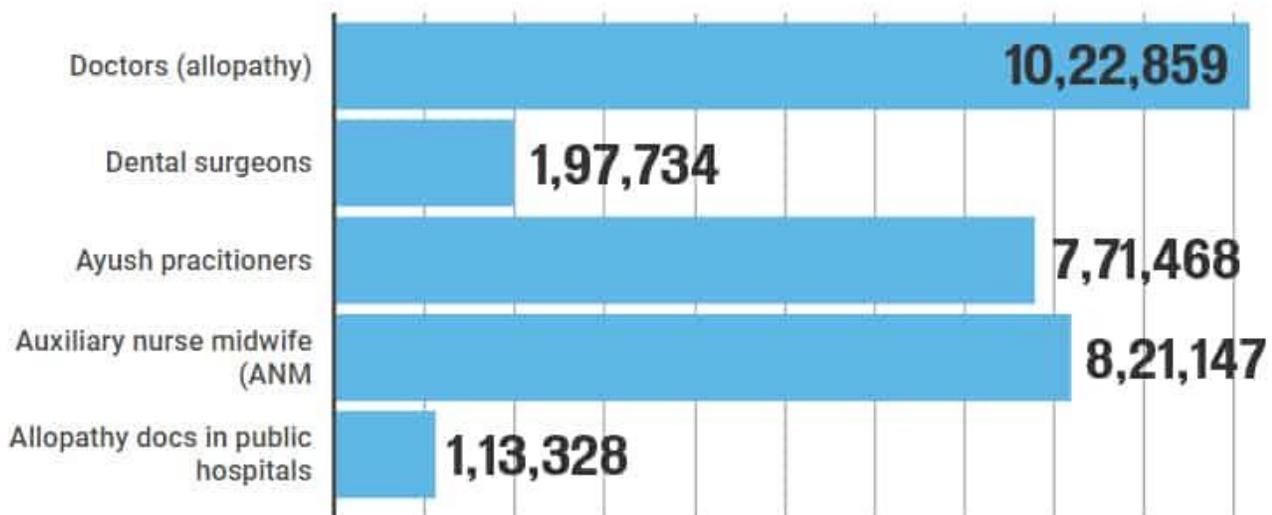


Fig. 6. Numbers of Doctors in India in 2017

For example, Maharashtra has 1, 53, 513 registered doctors, the most in the country, compared to 792 registered with the Arunachal Pradesh Medical Council.

In the absence of doctors, the sick make do with whoever is available, irrespective of their qualifications.

Only one in five doctors in rural India are qualified to practice medicine, found a World Health Organization (WHO) report

on India's healthcare workforce, highlighting the widespread problem of quackery. The WHO report, published in 2016, said 31.4% of those calling themselves allopathic doctors were educated only up to Class 12 and 57.3% doctors did not have a medical qualification.

In India, self-styled doctors without formal training provide up to 75% of primary care visits. "We get very sick babies because most parents seek local remedies and treatment from

quacks before they bring their children to hospital. We can't turn anyone away so you'll often find two to three babies on one bed or two babies in one incubator. We provide the best of care possible under the given circumstances, which is not

enough at times," said the new principal of BRD Medical College, Dr PK Singh.

Infrastructure

Modern medicine (allopathy)



Fig. 7. Numbers of Hospitals in India in 2017

“There are no large-scale surveys on quackery by national statistical agencies such as the Census of India or National Sample survey Office, which could form the basis for policy making in this area. The World Health Organization is the first comprehensive report on the health workforce in India and though it has been derived by decoding the 2001 Census data, the methodology and conclusions are sound,” said Shailaja Chandra, former chief secretary Delhi, who has worked in the Union health ministry and authored the report, Unqualified Medical Practitioners this year.

doctors in urban areas had a medical degree, only 19% of those in rural areas had such a qualification,” said Chandra.

The way ahead

“Strengthening primary healthcare hasn’t got the priority it needs and the sick reach hospitals after faith-healers, quacks and other unqualified practitioners fail to cure them,” said Sujatha Rao, former health secretary, Union Ministry of Health and author of Do we care? India’s health system. “With early diagnosis and timely referrals, many lives can be saved,” she said.

“The lack of medical qualifications was particularly high in rural areas. The report brought out that whereas 58% of the

Ayush (ayurveda, yoga, unani, siddha and homeopathy)

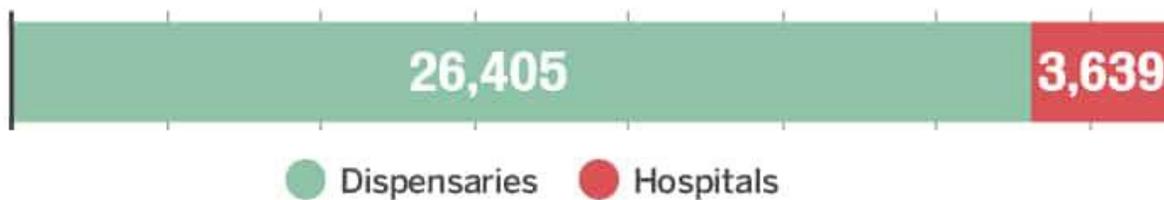


Fig. 8. Numbers of Hospitals & Dispensaries in India in 2017

Training informal healthcare workers who had little-to-no training for nine months increased their ability to correctly manage cases, found a J-PAL 2016 study on The Impact of Training Informal Healthcare Providers in India. Trained informal workers provided correct case management in 60%

cases compared to 52% of the comparison group, and 67% doctors at public health centres. The training, however, did not reduce the use of unnecessary medicines, found the study.

In the absence of doctors, quacks provide a service and cannot be wished away, says Chandra. “What we need is an updated

assessment of quackery by state and district, better enforcement to ensure they don't indulge in high-risk practices such as use of injections and IV fluids, and selective training so they cause least harm while improving access to first-line health care," said Chandra.

Trained quacks, however, cannot replace doctors, and India is just not training enough. There are 462 medical colleges that teach 56,748 doctors and 3,123 institutions that prepare 1,25,764 nurses each year, but with India's population increasing annually by 26 million, the numbers are too little.

"India keeps announcing new AIIMS-like institutes in states, but where is the faculty to train these doctors? Setting up a building and buying equipment is not enough, you need trained doctors to provide care," said Rao.

Medical education

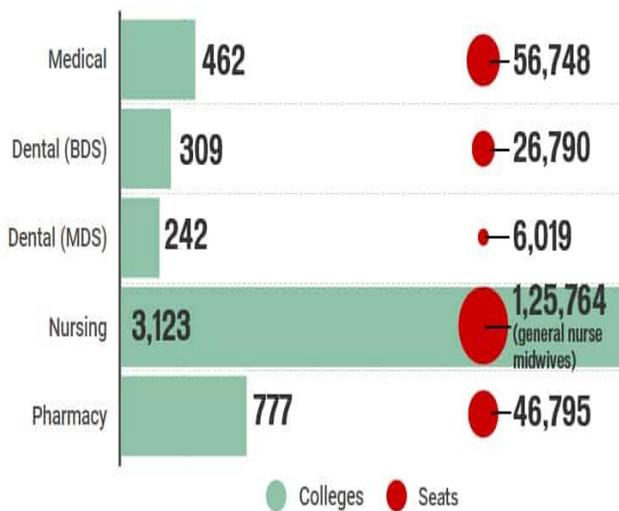


Fig. 9: Numbers of Medicals & Teachers in India in 2017

Source: National Health Profile 2017, Ministry of Health and Family Welfare.

Even the equipment bought is often not used. A Comptroller and Auditor General (CAG) report in June revealed a 27.21% shortage for clinical equipment and 56.33% for non-clinical equipment, of which oxygen supply is a part. The report found critical medical equipment had not been used for more than five years because there was no annual maintenance contract.

"Instead of training Ayush practitioners and quacks – every hospital compounder and ward boy becomes a self-proclaimed doctor after retirement – to prescribe allopathy medicine, we need to strengthen traditional systems of medicine to offer first line of treatment and care," said Dr KK Aggarwal, president, Indian Medical Association.

4. HEALTHCARE SCHEMES IN INDIA YOU MUST KNOW ABOUT

Under the National Health Mission, the government has launched several schemes like:

1. Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) programme essentially looks to address the major causes of mortality among women and children as well as the delays in accessing and utilizing health care and services. It also introduces new initiatives like the use of Score Card to track health performance, National Iron Initiative to address the issue of anemia across all age groups and the Comprehensive Screening and Early interventions for defects at birth, diseases, and deficiencies among children and adolescents.
2. Rashtriya Bal SwasthyaKaryakram (RBSK) is an important initiative aiming at early identification and early intervention for children from birth to 18 years to cover 4 'D's viz. Defects at birth, Deficiencies, Diseases, Development delays including disability. Early detection and management diseases including deficiencies bring added value in preventing these conditions to progress to its more severe and debilitating form
3. The RashtriyaKishorSwasthyaKaryakram. The key principle of this programme is adolescent participation and leadership, Equity and inclusion, Gender Equity and strategic partnerships with other sectors and stakeholders. The programme enables all adolescents in India to realize their full potential by making informed and responsible decisions related to their health and well-being and by accessing the services and support they need to do so.
4. The government of India has launched Janani Shishu Suraksha Karyakaram to motivate those who still choose to deliver at their homes to opt for institutional deliveries. It is an initiative with a hope that states would come forward and ensure that benefits under JSSK would reach every needy pregnant woman coming to government institutional facility.

- Since the rate of deaths in the country because of communicable and non-communicable diseases is increasing at an alarming rate, the government has introduced various programmes to aid people against these diseases.

In India, approximately about 5.8 million people die because of Diabetes, heart attack, cancer etc each year. In other words, out of every 4 Indians, 1 has a risk of dying because of a Non- Communicable disease before the age of 70.

According to the World Health Organisation, 1.7 million Indian deaths are caused by heart diseases.

5. National AIDS Control Organisation (NACO) was set up so that every person living with HIV has access to quality care and is treated with dignity. By fostering close collaboration with NGOs, women's self-help groups, faith-based organizations, positive people's networks, and communities, NACO hopes to improve access and accountability of the services. It stands committed to

building an enabling environment wherein those infected and affected by HIV play a central role in all responses to the epidemic – at state, district and grassroots level.

6. Revised National TB Control Programme is a state-run tuberculosis control initiative of Government of India with a vision of achieving a TB free India. The program provides, various free of cost, quality tuberculosis diagnosis and treatment services across the country through the government health system.
7. National Leprosy Eradication Programme was initiated by the government for Early detection through active surveillance by the trained health workers and to provide Appropriate medical rehabilitation and leprosy ulcer care services.
8. The Government of India has launched Mission Indradhanush with the aim of improving coverage of immunization in the country. It aims to achieve at least 90 percent immunization coverage by December 2018 which will cover unvaccinated and partially vaccinated children in rural and urban areas of India.
9. In order to address the huge burden of mental disorders and the shortage of qualified professionals in the field of mental health, Government of India has implemented National Mental Health Program to ensure the availability and accessibility of minimum mental healthcare for all in the foreseeable future.
10. Pulse Polio is an immunization campaign established by the government of India to eliminate polio in India by vaccinating all children under the age of five years against the polio virus.
11. The Pradhan MantriSwasthya Suraksha Yojana (PMSSY) was announced with objectives of correcting regional imbalances in the availability of affordable/ reliable tertiary healthcare services and also to augment facilities for quality medical education in the country by setting up of various institutions like AIIMS and upgrading government medical college institutions.
12. Since there are huge income disparities, therefore, the government has launched several programmes in order to support the financially backward class of the country. As about 3.2 crore people in India fall under the National Poverty line by spending on healthcare from their own pockets in a single year. The most important programme launched by the government is RashtriyaArogya Nidhi which provides financial assistance to the patients that are below poverty line and are suffering from life-threatening diseases, to receive medical treatment at any government run super specialty hospital/ institution.
13. National Tobacco Control Programme was launched with the objective to bring about greater awareness about the harmful effects of tobacco use and about the Tobacco

Control Laws and to facilitate the effective implementation of the Tobacco Control Laws.

14. Integrated Child Development Service was launched to improve the nutrition and health status of children in the age group of 0-6 years, lay the foundation for proper psychological, physical and social development of the child, effective coordination and implementation of policy among the various departments and to enhance the capability of the mother to look after the normal health and nutrition needs through proper nutrition and health education.
15. RashtriyaSwasthyaBimaYojana is a government-run health insurance programme for the Indian poor. It aims to provide health insurance coverage to the unrecognized sector workers belonging to the below poverty line and their family members shall be beneficiaries under this scheme.

4.1 How does Oxfam India work to address healthcare:

Costly healthcare is pushing millions below poverty line every year, and denies care to many who are already poor. Key essential medicines remain unaffordable and inaccessible to people. Oxfam India has been part of a nationwide process working towards improvements in the delivery of public health services. We are working across states to improve access to healthcare and essential medicines. Here is how:

Oxfam India's work on Essential Medicines in our intervention regions this year

1. Oxfam India covered 15 districts in Bihar, 14 in Odisha and 10 districts in Chhattisgarh reaching out to over 60, 00, 000 people in these states with the message of demanding greater access to affordable essential medicines. The campaign was done collaboration with Jan SwasthyaAbhiyan (JSA) and other Health Networks. The campaign was designed to create awareness among general mass and strengthen communities' voice for availing their rights for essential medicines and diagnostic facilities.
2. In Bihar, the name of the campaign on essential medicines was carried out under the tagline of HaqBantaHai and sub tag of "Struggle from 14 to 40" with an ask to increase the per person, per capita government expenditure on medicines from Rs. 14 to Rs. 40. As a result of the campaign the then Finance Minister, Government of Bihar, committed to provision INR 500 crore in the budget of Bihar for year 2018-19. He committed that will strive to spend Rs. 40 per person, per capita during FY 2018-19. However, due to political instability and elections in Bihar, this commitment did not see the light of the day.
3. In Odisha, over 1000 letters written by the community members were posted to the Chief Minister's office in Odisha demanding free medicines and free diagnostic services at the health centers, and faster transportation

services. Post the campaign spike, the State Health Minister ordered for the display of information including CDMOs contact number in all the public health centres. The national political parties in Odisha invited Oxfam India to make presentation on the campaign in their Economic Affairs Committee meeting. A political party has agreed to include some of the demands in their forthcoming 2019 election manifesto. Due to constant advocacy under access to medicine campaign in Odisha, an enhanced budgetary allocation from Rs.263 Cr. in 2017-18 to Rs.304 Cr. in 2018-19 is provisioned in the budget for the NIRAMAYA Scheme alone. The government has also launched a new scheme for diagnosis called NIDAN in 2018.

4. In Chhattisgarh, in partnership with the state Jan SwasthyaAbhiyan, the data generated from active tracking of stock of essential medicines in public hospitals in 56 facilities of 10 districts has been used for state level advocacy with high media outreach. Various stakeholders, like Chhattisgarh Medicine Services Corporation (CGMSC), Chhattisgarh State AIDS Control Society (CGSACS), CBOs and patients organisations were brought together for joint consultations. During one consultation, the Chhattisgarh Positive People's Network raised concerns related to shortage and non-procurement of HIV/AIDS medicines and related consumables, as a result of which a three month inventory of the required items were procured and distributed by the state health department. Additionally, through training and survey on medicines, the capacities of civil society organisations have been built around the issue of medicines. Regional consultations have been held in order to build solidarity and a campaign around the Right to health and health equity.

Pradhan Mantri Jan AarogyaYojana (AB-PMJAY)' scheme, deemed as the world's largest government-funded healthcare programme covering over 50 crore beneficiaries. Describing it as a "game-changer initiative to serve the poor", PM Modi said the scheme, which would come into effect from Sunday, is a step towards serving the poor people of the country. "Some call it Modicare, some call it a scheme for the poor. It is definitely a scheme to serve the poor," the Prime Minister said. "PMJAY-Ayushman Bharat is the biggest government-sponsored healthcare scheme in the world," Modi said. "The total number of beneficiaries from Ayushman Bharat is more than the population of America, Canada and Mexico combined. Organisations across the world will study Ayushman Bharat to study how the government funded this large-scale scheme," said PM Modi. The PM further urged the people to memorise the helpline number of the scheme. "The helpline number for Ayushman Bharat is 14555. It should be memorised by one and all," said Modi. He further said, "Some people are calling it Modicare, but for me this scheme is only about benefiting the poor." Sunday's launch programme was attended by Union health minister JP Nadda, Jharkhand chief

minister Raghubar Das, state governor DraupadiMurmu and other dignitaries. The scheme was announced by PM Modi in his Independence Day speech and was simultaneously launched in 445 districts. A digital campaign was also rolled out for spreading awareness among the people about the scheme through animations on social media and websites. Here is all you need to know about the scheme:

Ayushman Bharat: According to health ministry officials, the 71st round of National Sample Survey Organization (NSSO) revealed that 85.9 per cent of rural households and 82 per cent of urban households have no access to healthcare insurance/assurance. More than 24 per cent households in rural India and 18 per cent population in the urban area have met their healthcare expenses through some sort of borrowing. The Ayushman Bharat intends to change this status quo.

According to NitiAayog member VK Paul, who is the chief architect of the scheme, in the current fiscal the burden on the Centre is likely to be around Rs 3, 500 crore, which is why it is being termed as the world's largest healthcare scheme. It will be funded with 60 per cent contribution coming from the Centre and remaining from the states.

The Ayushman Bharat is a scheme that aims to provide health assurance to 10 crore families or around 50 crore Indians, who will be given up to Rs 5 lakh cover per year. The scheme targets the poor, deprived rural families and identifies an occupational category of urban workers' families, 8.03 crore in rural and 2.33 crore in urban areas, as per the latest Socio-Economic Caste Census (SECC) data. The health ministry has included 1, 354 packages in the scheme under which treatment for coronary bypass, knee replacements and stenting among others would be provided at 15-20 per cent cheaper rates than the Central Government Health Scheme (CGHS). The scheme will provide cashless and paperless access to services for the beneficiary at the point of service. Eligible people can avail the benefits in government and listed private hospitals.

Eligibility for Ayushman Bharat: The entitlement is being decided on the basis of deprivation criteria in the SECC database. The beneficiaries are identified based on the deprivation categories (D1, D2, D3, D4, D5, and D7). For the urban areas, the 11 occupational criteria will determine entitlement. In addition, the RashtriyaSwasthyaBimaYojna (RSBY) beneficiaries in states where it is active are also included. There is no cap on family size and age in the scheme.

Aadhaar card is not mandatory. One would only need to establish one's identity to avail benefits under the scheme which can also be done through election ID card or ration card.

1. **Ayushman Bharat National Health Protection Mission:** The scheme was launched on 25th Sep, 2018. This scheme comprises of two components. Firstly, setting up of 1, 50, 000 health and wellness centers by the government. On 14th April 2018, the government inaugurated its first health and wellness center in Bijapur as an initiative under this scheme. Secondly, the National Health Protection

Mission under this scheme aims to provide an insurance cover of Rs. 5 lakh every year to around 10 crore poor families who will undergo cashless treatment at all the government and private impanelled hospitals across the country for the secondary and most tertiary care procedures.

2. **UDAN Yojana;** UdeDeshkaAamNaagrikYojana. aimed at making air travel affordable and widespread, to boost inclusive national economic development, job growth and air transport infrastructure development of all regions and states of India.
3. **BetiBachao, BetiPadhao;**(Save girl child, educate a girl child) is a personal campaign of the Government of India that aims to generate awareness and improve the efficiency of welfare services intended for girls. The scheme was launched with an initial funding of ₹100 crore (US\$14 million). It mainly targets the clusters in Uttar Pradesh, Haryana, Uttarakhand, Punjab, Bihar and Delhi.
4. **Pradhan MantriAwasYojana:** ‘ (PMAY) is an initiative by Government of India in which affordable housing will be provided to the urban poor with a target of building 20 million affordable houses by 31 March 2022. It has two components: Pradhan MantriAwasYojana (Urban) (PMAY-U) for the urban poor and Pradhan MantriAwasYojana (Gramin) (PMAY-G and also PMAY-R) for the rural poor.This scheme is converged with other schemes to ensure houses have a toilet, SaubhagyaYojana electricity connection, UjjwalaYojana LPG gas connection, access to drinking water and Jan Dhan banking facilities, etc.
5. **Operation flood:** Operation Flood, launched in 1970, was a project of India’s National Dairy Development Board (NDDB), which was the world’s biggest dairy development program. It transformed India from a milk-deficient nation into the world’s largest milk producer, surpassing the USA in 1998, with about 17 percent of global output in 2010–11. In 30 years it doubled milk available per person and made dairy farming India’s largest self-sustainable rural employment generator. It was launched to help farmers direct their own development, placing control of the resources they create in their own hands. All this was achieved not merely by mass production, but by production by the masses; the process has been called the white revolution.

There are 19, 817 hospitals having 6, 28, 708 beds in country as on March 2013.15, 398 hospitals are in rural areas with 1, 96, 182 beds.4, 419 hospitals are in urban area with 4, 32, 526 beds.Medical care facilities under Ayush by management status i.e. dispensaries & hospitals are 26, 107 & 3, 167 respectively as on March 2013.Also there are 1, 51, 685 Sub centers, 24, 448 Primary Health centers and 5, 187 Community Health Centers in India as on March 2013.

We don’t know about exact number of private and government hospital.

You can clearly see the difference between numbers of beds present in rural and urban India.The Indian healthcare delivery system will need to add 3.6 million beds, three million doctors and six million nurses over the next 20 years, says a recent study by consultancy Price water-house Coopers (PwC). The report, called 'The Future of India: The Winning Leap', says roughly 100, 000 hospital beds have been added annually over the last decade and if India continues to maintain this rate, it will fall short of target by 1.6 million beds by 2034.

At present, there are only 0.65 doctors, 1.3 nurses and 1.3 hospital beds per 1, 000 people in the country. The desired requirement by 2034 for every 1, 000 people is 2.5 doctors, five nurses and 3.5 beds. To achieve this standard, the study estimates, an investment of around \$245 billion would be required.

PwC suggests that low-cost operational models combined with innovative financing models could help secure the needed resources. These include public-private partnerships, low-cost specialty care models like the one followed by eye hospital Arvind in Madurai and cardiac care specialist Narayana Hrudayalaya in Bangalore. High asset utilisation as well as para-skilling of nurses (training them to perform some procedures that previously only doctors could do) can further help to lower costs and enable the staff to serve larger volumes of patients. Leveraging digital technologies and strength as a world leader in vaccine manufacturing also can help the country save about \$90 billion in capital costs, says the study.

PwC says the study is the outcome of interviews with about 80 leaders in India and abroad, workshops with sector leaders, insights from academic and economic specialists, and an online survey completed by more than 1, 500 people.

5. FINDINGS AND CONCLUSIONS

5.1 Findings and Managerial implications

The key to social and economic development is the good health of a nation backed up its ability to analyze health systems’ performance and to share what they know with similar nations (Brundtland G.H., 2001). Health care today has emerged as one of the key investments of our governments with more than 24% of our GDP being invested directly or indirectly to meet the ever-increasing needs a large population. With increase in literacy especially in the urban regions, patients are becoming increasingly demanding including latest health care procedures and equipment (Howard J.E., 2000). Patient empowerment can cut health care costs and improve quality (Leatherman S., 2001). Moreover with growing awareness, consumers believe they should be actively involved in the creation of the health care service planning and delivery practices (Graham J.D., 2001). Zeynep, 2002 insists that especially in sectors such as health, sharable experiential knowledge can play a key role to improve service quality. This

paper aims to understand the growing role information and knowledge can play to address these new needs in the health care sector. Using a common integrated Knowledge Management strategy supported by a strong regulatory framework, one can ensure a number of benefits for India.

Technological innovations, particularly in the fields of biotechnology, genetics, and information and communication technologies, are bringing substantial benefits in the prevention, diagnosis and treatment of disease, as well as access to care (Cotis J.P., 2003). However, to enable such innovation and joint medical research a strong foundation of rich medical institutions is set up which can provide specialized bodies of knowledge essential in the creation of KM strategy. Thus, a strong network of multiple stakeholders, both public and private must collaborate to reap the full benefits of knowledge in India and only then can a successful and sustainable Knowledge Management for health can be created.

5.2 Conclusions

A common and Integrated Knowledge Management framework for India can address a number of challenges in the Health sector to deliver health care services in a cost effective and satisfactory way. However, all the three key components of knowledge management i.e people, process and technology must work in tandem to achieve this. Moreover, a careful analysis of the inter-relationships between these components is essential. The wide diversity in India is also a crucial issue, since an inappropriate strategy would cause low rates of Knowledge production, sharing and utilization as well the poor

methods of accessing and applying knowledge. Hence, before a choice for a common system is made, some key initiatives must be taken by the controlling organizations backed by the development of supporting policies, resources and programs for managing health knowledge. It is imperative that the Knowledge Management strategy takes an integrated and coordinated institutionalization of knowledge management activities to ensure that we develop the necessary resources and capabilities that exploit the full capabilities of available health knowledge.

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Assessment of Higher Education Learning Outcomes: A Sustainable and Transparent Model

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Abstract: *Learning results are delivered through an advanced education framework that is complex and interconnected, with a wide range of partners. Moreover every nation has its very own kind courses of action, history and context and most are seeing greater diversity emerging as the student body has expanded and society's expectations of higher education have increased. Advanced education foundations are to a great extent autonomous and are increasingly diverse - some institutions offer an increasingly wide scope of study options while others had some expertise in gathering explicit necessities. It is imperative to re-emphasise that AHELO is intended as a tool for higher education institutions to support improvement in learning outcomes and, given the concerns expressed by some stakeholders, it might be important to inspect whether some type of protections may be expected to guarantee that AHELO remains true to purpose and is not misused. Such reassurance would also probably help to encourage more higher education institutions to participate.*

Keywords: *Higher Education, AHELO, Feasibility Study*

1. INTRODUCTION

Indian higher education framework has experienced massive expansion in post-independent India with a national determination to set up a few Universities, Technical Institutes, Research Institutions and Professional / Non-professional Colleges all over the country to create and disperse knowledge coupled with the noble intention of providing easy access to higher education to the common Indian. The Public activities played a prevailing and controlling job in this stage. Most of the Universities were Public institutions with powers to regulate academic activities on their campuses as well as in their areas of jurisdiction through the affiliating system.

Indeed, even the private organizations delighted in extensive scale monetary help as awards from the public exchequer. Private funds as well as individuals played key roles in the cause of higher education. There are about 534 universities and 25 951 colleges in India and most of the resources designated to education are destined to primary education (Hill & Chalaux, 2011). Per-student funding in Higher Education was lower in the period 2007-08 than in the mid 1990's. Reorientation of higher instructive chances and conventions

that Indian Universities have developed, since independence have had the capacity to create graduates, fit just of seeking after restricted professions, in any case, in the new all around aggressive condition that is rising in the nation, the Indian student is presently required to build up a multifaceted identity to adapt up to the quick changes on the planet on the loose. This requires the advancement of body, psyche and soul, through the instructive procedures in the institutions of higher education. Wellbeing cognizance and physical readiness for a healthy body ought to be a basic piece of the University culture. Be that as it may, a healthy body alone can't be accomplished and kept up without a healthy mind. Therefore value education becomes a desirable moral necessity for meeting the challenges of the contemporary World. Proficient fitness is of little esteem if proficient morals are overlooked. Similarly, brilliance is of no use if it is employed for anti social activities. In order to achieve all these ends effectively one has to see that the processes of education are properly regulated in terms of assessment and evaluation of learning. A nearby collaboration between the teachers and the students in the assessment of the advancement of learning is alluring, with the goal that instructing learning process isn't shallow.

2. ASSESSMENT OF HIGHER EDUCATION LEARNING OUTCOMES

AHELO, the Assessment of Higher Education Learning Outcomes has been around for more than 10 years. The essential idea is to test students in a few scholarly fields in an assortment of nations to look at learning results crosswise over nations. The brainchild of the organization for economic co-task and development, or OECD, a practicality contemplate was led and assessed in 2012.

Presently, in 2015, the OECD proposed a full-scale usage of the undertaking. Among the problems cited were the soundness of the instrument utilized – based on the US Collegiate Learning Assessment – and other methodological issues inherent to cross-national research. AHELO advocates point out that the only way that academic institutions and systems are compared today is through flawed rankings that use questionable methods and have little validity. They additionally notice that learning results are excluded (Brese, et. Al., 2012). While these backers guarantee that AHELO won't be a positioning, they propose to think about the accomplishments of foundations and nations – driving

unavoidably to a chain of importance. To be sure, the OECD's Andreas Schleicher, in the Times Higher Education issue of May 7, noticed that AHELO would almost certainly rise as another, as indicated by him, increasingly significant positioning.

3. A SUSTAINABLE AND TRANSPARENT MODEL: AHELO

A basic segment of AHELO is that an extensive number of stakeholders share a developing enthusiasm for teaming up to all the more likely comprehend and improve the results from higher education. Frameworks and foundations connect with AHELO to yield aggregate bits of knowledge into instruction. Captured from students, these bits of knowledge can be totalled into applicable reports for all dimensions of strategy and practice. Strategy, specialist and research networks can utilize such experiences for observing and change. Figure 1 sketch the different cycles of commitment and change. The AHELO Feasibility Study is giving an unparalleled chance to create and test a doable model for AHELO. The reasonable model that is developing mirrors a harmony between quality, proficiency and cost. It assesses national and universal settings and relativities.



Fig. 1. AHELO Different cycles

The highest guidelines are normal for AHELO, and there is strong worldwide enthusiasm for AHELO's methodology and results. In the course of the most recent 50 years, quality guidelines have been created through many worldwide instruction studies, and AHELO must meet and outperform these desires. Keeping that in mind, AHELO must expand on specialized methodologies tried all around over numerous decades in worldwide examinations, and adjust and position these inside the novel working setting of advanced education. Strong and productive global systems must structure and bolster national contextualisation and usage.

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years, quality guidelines have been created through many worldwide instruction studies, and AHELO must meet and outperform these desires. Keeping that in mind, AHELO must expand on specialized methodologies tried all around over numerous decades in worldwide examinations, and adjust and position these inside the novel working setting of advanced education. Strong and productive global systems must structure and bolster national contextualisation and usage.

Classification and security are characteristic for high stakes testing, however enthusiasm for the AHELO Feasibility Study has asserted that transparency is likewise essential. Higher education is an industry that gives extraordinary load to scholarly peer review of material and techniques, like: sampling, task properties, psychometrics and scoring, and results, like: the validity and reliability of results, and the convenience of reports. The requirement for activities that are intended to expand the straightforwardness of approach and practice to themselves be straightforward goes to the requirement for consultative administration courses of action, the use of standard specialized methods, successful task authority, documentation of operational work, oversight of key regions by master consultants, continuous preparing and support, and the use of exacting money related controls (Ewell et. Al., 2010).

4. MULTIDIMENSIONAL INSTRUMENTATION

At the core of AHELO is a suite of online target tests that measure later-year students' information and ability to take care of genuine issues. Current student evaluations focus on generic, designing and financial aspects abilities. All students complete a brief context instrument, as do faculty and institutions (see Figure 2). Higher education exists inside control settings, and to roll out institutional improvement as AHELO results need to address individuals who instruct, learn and lead in disciplines. Accomplishments to date demonstrate that new evaluations could well be created to triangulate existing tests and present significantly increasingly multidimensional points of view on instructive results.



Fig. 2. Feasibility Study instrumentation

5. AHELO WORKS

The AHELO Feasibility Study proposes these can be refined into three stages: preparation, assessment and reporting as shown in figure 3. Planning comprises of nations building up a national administration focus that facilitates national exercises and is in charge of contact with worldwide undertaking directors. The national focus adjusts, deciphers and approves test materials, and directions institutional execution.

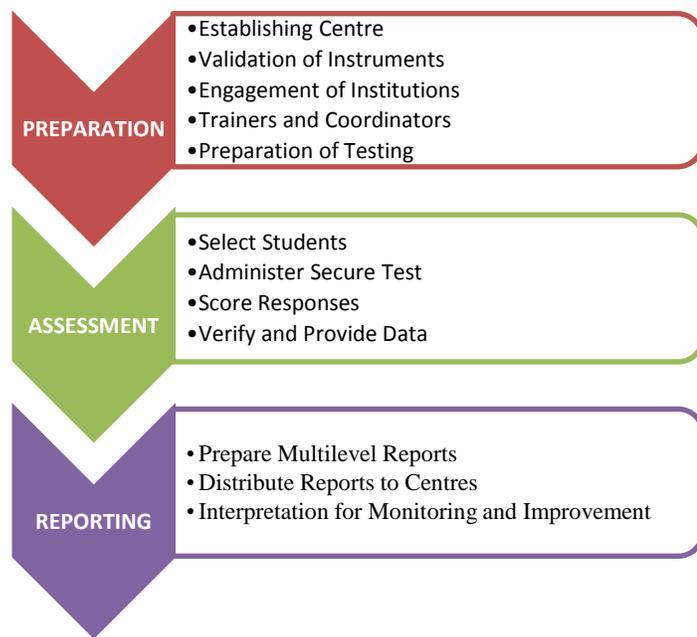


Fig. 3. AHELO work flow

Upheld by particular preparing, global venture chiefs and a library of help materials, every nation's national focus advances AHELO and engages institutions. The inside enables establishments to plan for testing. Evaluation includes the accumulation and detailing of information. This includes sampling and recruiting students into the study. Testing is directed by foundations under standard conditions and supported by strong quality affirmation routines. Tests are conveyed online in administered conditions. Personnel are engaged with scoring open-finished reactions.

Enlightening reports are set up by global undertaking supervisors, and appropriated to frameworks and after then institutions (OECD, 2012). Reports are intended for checking and nonstop improvement, and incorporate highlevel results and breakdowns by key setting qualities. Reports outline dimensions of capability against psychometrically approved factors. Protocols are used to ensure institutional and individual confidentiality.

6. CONCLUSION

The main focus of AHELO is on quality enhancement means focus on learning, learning as social practice, focus on personal and professional development and exploration of the link between teaching and learning. The main emphasis is on discussion and teachers should work as collaborators across discipline.

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Quality Improvement in Context of Evaluation Practices Followed by CBSE

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Abstract: *Assuring Quality in the education system needs continuous appraisal of its various aspects. One of the important aspects of the Education system which plays a major role in determining Quality is the Evaluation system. CBSE has brought about many changes in the evaluation system in the past one decade with a view to bring about Quality Improvement in the education system. Continuous Comprehensive Evaluation (CCE) system was implemented by CBSE in 2009 till class X. CCE pattern has been discontinued and Uniform System of Assessment has been introduced from classes VI to X in all CBSE affiliated schools from 2017-18. Also board exams have been introduced again for class X. Only after critically analyzing the various aspects of CCE and Uniform System of Assessment, steps should be taken to incorporate the strengths of both these systems of evaluation to bring about further quality improvement in the present system. The present study is a step in this direction.*

Keywords: *Continuous Comprehensive Evaluation, Uniform System of Assessment*

1. INTRODUCTION: CURRENT PRACTICES OF EVALUATION

CBSE has brought about many changes in the evaluation system in the past one decade with a view to bring about Quality Improvement in the education system. Continuous Comprehensive Evaluation (CCE) system was implemented by CBSE in 2009 till class X. The system also made Class X board optional for students. Continuous and comprehensive evaluation refers to a system of school-based assessment of the students throughout the year on a continuous basis. It is comprehensive in the sense that it covers all aspects of students' development. It comprises formative and summative assessment of the students. Formative assessment includes assessment of Class work, homework, assignments, project work and unit tests. Summative assessment is based on two term end examinations. Maximum Marks a student can score- 40(formative assessment) + 60(summative assessment) = 100 Marks. These marks are later converted to grades.

Due to certain loopholes and limitations in the C.C.E system, certain changes have been made in the evaluation system. CCE pattern has been discontinued and Uniform System of

Assessment has been introduced from classes VI to X in all CBSE affiliated schools from 2017-18. This system aims to bring uniformity in evaluation system in all CBSE affiliated schools. Under this system 20 marks are allocated for Periodic Assessment and 80 marks for End Term Exam. The periodic assessment has 10 mark test based on syllabus covered till announcement of test date, five marks for notebook submission and five marks for subject enrichment activities, which include activity-based learning. Also board exams have been introduced again for class X.

2. NEED OF THE STUDY

Assuring Quality in the education system needs continuous appraisal of its various aspects. One of the important aspects of the Education system which plays a major role in determining Quality is the Evaluation system. Since objectives, teaching learning process, curriculum and evaluation are all interrelated and interdependent, the effectiveness of the evaluation system influences the quality of these other major components of the education system.

In India, there are more than 18, 000 schools under CBSE at present. Therefore it is worthwhile to study its evaluation practices as it affects a huge number of students. Since CBSE has brought about many changes in the evaluation system in the past one decade, it becomes imperative to ponder over the following questions in context of quality improvement:

1. Was the C.C.E system not effective in evaluating students?
2. What changes have been brought about and why?
3. What measures should be taken for further quality improvement?

Only after critically analyzing the various aspects of CCE and Uniform System of Assessment, steps should be taken to incorporate the strengths of both these systems of evaluation to bring about further quality improvement in the present system. The present study is a step in this direction.

3. OBJECTIVES OF THE STUDY

- 1) To study the evaluation practices followed by C.B.S.E in the past decade.

- 2) To analyze the changes brought about in the evaluation system.
- 3) To examine the impact of these changes in terms of quality improvement.
- 4) To suggest measures for further Quality enhancement in the present evaluation System being followed by CBSE.

4. EVALUATION PRACTICES FOLLOWED BY CBSE

Since 2009 CBSE has brought about some radical changes in the evaluation system which have influenced the quality of teaching learning in schools. The two major changes in the evaluation system in the past one decade are as follows:

- Introduction of Continuous and Comprehensive Evaluation (CCE) till class X in the year 2009 and its implementation till 2016-17
- Introduction of Uniform System of Assessment in 2017-18 which is continuing till date.

These evaluation practices are dealt with in detail in the following sections:

5. CONTINUOUS COMPREHENSIVE SYSTEM OF EVALUATION (2009-2016)

The first radical change brought about by CBSE in the past decade was adoption of C.C.E till class X. CBSE introduced the system of Continuous and Comprehensive evaluation (CCE) in 2009 and implemented it from academic session 2010-2011. Board exams that were earlier compulsory for all class X students have been made optional. Continuous and comprehensive evaluation refers to a system of school-based assessment of the students *throughout the year* on a continuous basis. It is comprehensive in the sense that it *covers all aspects* of students' development. The new system of evaluation comprises formative and summative assessment of the students. This assessment is conducted over two terms in an academic session.

Formative assessment (FA) - Class work, homework, assignments and project work are assessed twice in each of the terms. Each evaluation carries 10 marks. So a maximum of 20 marks are awarded in each term. Thus 40 marks are awarded under formative assessment. Distribution of marks is given below in a concise manner:

I term- Maximum Marks-10(FA I)+10 (FA II)= 20 Marks

II term- Maximum Marks-10(FA III)+10 (FA IV)= 20 Marks

Total Marks (under FA) = 40 Marks

Summative assessment (SA)- It is based on term end examinations. At the end of the first term, a term end exam of 30 marks is conducted. At the end of the second term, a term end exam of 30 marks is conducted. Thus a maximum of sixty marks are awarded under summative assessment. Distribution of marks:

I term (SA I) - Maximum Marks- 30 Marks

II term(SA II) - Maximum Marks- 30 Marks

Total Marks (under SA) = 30+30= 60 Marks

Thus, students can score a maximum of 100 marks in the following manner:

Maximum Marks = 40(formative assessment) + 60(summative assessment) = 100 Marks

In this system, students are awarded marks for their performance and these marks are later converted to grades. Nine point grading system is followed to evaluate the students of classes IX and X. In this grading system there are nine grades corresponding to a range of marks. It also includes assessment of co-scholastic and co-curricular areas which include a wide range of aspects ranging for life skills and values to physical education. These are assessed on a 3 point grading scale.

The practice of declaring fail has been discontinued. Results are declared in two categories:

- i) Eligible for qualifying certificate (QUAL)
- ii) Eligible for improvement of performance

All candidates even if they have failed in all subjects have five chances to improve their performance without having to repeat a year. Hence there is no detention of students on the basis of evaluation.

Merits of C.C.E are as follows:

- It was beneficial for those students who were not very good in academics as they could realize their potential and got good grades through other activities.
- The burden was lesser. As content covered in one semester was not asked again in the next semester so it was easier for students to study.
- Formative assessment conducted on a continuous basis provided thorough revision.
- The system catered to overall personality development of students as it emphasized on both scholastic and co-scholastic aspects.
- There was more flexibility and choice for students as it included a wide range of activities from which certain activities could be selected for evaluation.
- There is lesser stress and anxiety due to no detention policy and board exams made optional.
- Dropout rate is reduced. Students need not dropout due to fear of failure in exams. Even if a student fails in all the subjects, he is given five chances to improve his performance.

Limitations of C.C.E are as follows:

- Teachers are overburdened as not only lot activities had to be organized and evaluated but also lot of records had to be maintained.
- Scrutiny of activities, home-work, projects and academics on a regular basis throughout the year puts a lot of stress on the students.
- Students took advantage of no detention policy. As they knew that they couldn't be failed many of them did not study seriously. Also, they got marks for other activities and didn't take exams very seriously. All this led to deterioration in the quality of their academic performance.
- It led to many malpractices. Many of the activities, projects and models were copied from internet or even bought from the market. Such malpractices on part of students not only helped them gain good marks without any effort but also caused deterioration of values
- It affected the quality of teaching learning. More time was spent on evaluation rather than teaching leading to lowering of standards.
- Competition was lesser, as many students got the same grade. The toppers who put in more efforts were not able to get due recognition and felt demotivated.
- There was scope for biasness and subjectivity in giving grades, especially on the criteria of values.
- Co-curricular activities consumed a lot of time, so lesser time was available for teaching, hence quality of teaching suffered.

6. UNIFORM SYSTEM OF ASSESSMENT(2017 TILL DATE)

As discussed in the above section, there were many loopholes and limitation in the implementation of C.C.E due to which it was discontinued and Uniform System of Assessment was introduced from classes VI to X in all CBSE affiliated schools from 2017-18. As per CBSE, the evaluation system followed by CBSE schools till 2016-17 had lots of disparities. In order to bring uniformity in evaluation system in all CBSE affiliated schools, it directed all CBSE schools to follow Uniform System of Assessment . Under this system, there are two semesters. 20 marks are allocated for Periodic Assessment and 80 marks for End Term Exam in each semester. The periodic assessment has 10 marks for periodic tests, five marks for notebook submission and five marks for subject enrichment activities, which include activity-based learning. These marks are further converted into grades.

From Classes VI to VIII.....The assessment structure and pattern of examination is same for classes IX and X. Board Exams have been reintroduced for Class X. Students getting marks 32 and below are considered failed. Co-Scholastic activities include Work Education, Art Education and Health

and Physical Education which are graded on a 3 point grading scale

7. CRITICAL ANALYSIS OF THE EVALUATION PRACTICES OF CBSE

The philosophy behind CCE was good but the way it was being implemented led to a lot of flaws. After a critical analysis, the major weaknesses identified under C.C.E, which have been removed under Uniform System of Assessment are as follows:

- 1) The CCE system had increased the pressure and workload on teachers. The paper work and record keeping had increased at the cost of quality of teaching. This loophole has been removed under Uniform System of Assessment where documentation is reduced and teachers can focus on improving the quality of teaching
- 2) Students were also pressurized under C.C.E due to continuous scrutiny of their assignments, activities, unit tests, projects, presentations and end term exams. Under Uniform System of Assessment there are lesser number of activities.
- 3) Also, no detention policy under C.C.E made average students relaxed as they were able to scrape through without a thorough study of the scholastic areas. Fear of failure in Class IX and Board Exams in class X under Uniform System of Assessment has made students take studies more seriously in these higher classes.
- 4) There was some variation in the criteria of evaluation being followed by schools under C.C.E system. But the Uniform System of Assessment has brought uniformity in the system.

However, the C.C.E system also had some merits, which were not continued under Uniform System of Assessment. These are as follows:

1. In C.C.E, weightage given to a wide range of co-curricular and co scholastic activities led to overall personality development of students. Also adequate emphasis was laid on life skills and values. However, these important aspects are not given much emphasis under Uniform System of Assessment
2. Stress of board exams and fear of failure was removed which made learning more joyful under C.C.E. But with reintroduction of Board Exams and Pass/Fail system, students are again under undue pressure to perform well.
3. Weightage to Formative assessment was 40% under C.C.E while it is only 20% under Uniform System of Assessment. This may lead to lack of consistency and regularity amongst students on a continuous basis and more burden during end term exam in the present system.

8. CONCLUSION

To conclude, both the C.C.E system and Uniform System of Assessment have their own strengths and limitations. Hence it

is suggested to make the following modifications in the present system to overcome its loopholes:

- Some modifications should be made in the board exam system to give 50% weightage to internal assessment and 50% weightage to board exams to reduce its phobia and stress.
- Life skills and values should be given more emphasis.
- Weightage to Formative Assessment should be at least 30% to make students consistent throughout the year.
- To make learning joyful, enhance the practical skills, problem solving skills and equip them better to face life situations, present system should incorporate more practical activities related to daily life situations

It is recommended that these features should be incorporated in the new system of evaluation being implemented from 2017-18 session so as to make the present system more effective and beneficial for the students.

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Quality Assurance Practices: A Study of Indian Banking Sector

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Abstract: *The Banking sector is the largest player that plays a dominant role in building the economy of an individual as well as the nation. A well-built banking and finance sector is, therefore, necessary for a country to appear as a developed one. Banks play a significant role in the economic development of any country. Economic development involves investment in all the sectors of the economy. Banking industry in India has achieved a new height with the change in times. It is important for growth, jobs creation, generation of wealth, eradication of poverty, encouraging entrepreneurial movement and growth in gross domestic product. The use of technology has brought a revolution in the operational style of the banks. The fundamental aspects of banking i.e. faith and the belief of the people on the institution remain the same. Information technology has given rise to new innovations in the product designing in the banking industry. Today banking is known as innovative banking. The changing dynamics of banking business brings new kind of risk disclosure. The paper aims to explain the changing banking scenario, the impact of economic reforms and analyses the challenges and opportunities for the Indian Banking Industry.*

Keywords: *E-Banking, Banking Innovation, Internet, Information Technology.*

1. INTRODUCTION

Online Banking includes both home banking and wireless banking, is changing dramatically the way financial institutions interact with their customers. The new millennium has opened an excess of opportunities in information technology, and has made marvelous impact in banking. . The recent progress of information technology has led to major changes in the way services are provided to the customers. Banking scenario has been changing rapidly since 1990s. ‘Anywhere banking’ and ‘Anytime banking’ has become a truth. The beginning and use of the Internet has changed significantly the daily activities of most of the people, such as shopping and banking. Banking customers gain the flexibility to conduct business anytime, using a PC, cellular phone, or other wireless device. But E-banking is more than simply setting up a new channel or customer touches point. E-banking is receiving great consideration in the banking industry and the community.

Online banking services are becoming an eye-catching alternative for number of customers. Some of the reasons for customers to prefer online banking services are: convenience, avoiding human contact, saving time and the quality of the electronically services. To some extent, the great interest in E-banking reflects a more general attention in the role of the internet as a vehicle for commercial activity. To make E-banking profitable, financial institutions must regard it as an integral part of a multi-channel strategy that allows customers to decide how, when and where they can do transactions. However, interest in e-banking may be particularly keen, along with other financial services. It provides a particularly fertile environment for the development of this sector. With this view, the financial institution can respond immediately to each customer contact, improving customer service, gaining cross-selling opportunities, and streamlining operations.

The basis for the multi-channel strategy is a real-time, cross-channel view of all customer information. Setting up of E-banking channel can propel the financial institution into next-generation retail banking. Banking online offers enormous benefits to consumers, but the fact is that it also creates enormous vulnerabilities and the number of intolerable applications targeting online banking transactions has increased dramatically in recent years. At its central part, banking involves the collection, storage, transfer and processing of information assets and the internet is an extremely powerful and efficient tool for handling these information processes.

Consumers are now becoming aware of the growing cases of fraud in online financial services through news, industrial reports, word of mouth and, unfortunately, through a large happening of user experience. Threats have grown beyond simple phishing schemes to significant new threats created by browser hijacking, spy ware, bank-stealing Trojans, keystroke logging and remote administration tools. This represents a challenge not only to the customers who use such facilities, but also to the financial institutions who offer them. These include account stealing, stolen identities, and loss of all confidentiality. These unbearable applications employ two kinds of assault vector – local attacks which occur on the local computer, and remote attacks, which redirect the prey to a remote site.

According to the research and analyst firm Gartner, nearly 32 percent of those who use online banking services say that online attacks have influenced their activities. Up to 74 percent of this group are logging on less often than they would if security were not a concern, and nearly 15 percent of these people no longer pay bills online, despite the convenience.

Why is this? Online fraudsters have technologically outpaced the security measures that most financial institutions have get underway. Fraudsters are playing disaster with transactional safety in every aspect of the online experience.

Electronic banking makes use of check cards or debit cards, smart cards or stored-value cards, digital cash and digital checks. Smart cards have a specific amount of credit embedded in them. It means using electronic ways to transfer funds directly from one account to another. Some Electronic banking services are ATMs, Direct Deposit and Withdrawal Services, Pay by Phone Systems, Point-of-Sale Transfer Terminals, Web Banking services, even banking from our mobile phone. "E-Banking" refers to systems that enable bank customers to access accounts, wide-ranging information and services on bank products and services through a personal computer (PC). Internet banking products and services can include wholesale products for corporate clients as well as retail products for clients. Digital cash is one way of allowing consumers make purchases over the internet instead of using a credit card. Digital cheques are used with electronic bill paying services.

As with other areas of e-commerce, Internet banking or E-banking, often proceed without reference to the actual state of market developments. Technology helps in reducing operating costs and also provides adequate client service. It has been argued that E-Commerce and Banking is revolutionizing the banking industry, others see the Internet as just adding another delivery channel for remote banking to existing channels such as Automated Teller Machines (ATMs) and cell phone Banking.

Banks require E-Commerce systems that are incorporated with the entire chain of back office and business resolution processes for most favorable flexibility, responsiveness to changing market requirements, and profitability. The adoptions of Internet banking by banks and financial institutions has grown at a very rapid pace and have made the development of services over the Internet a major component of their business and marketing strategy. Aggressive demands have made clear the need for banks to stay at the cutting edge of E-Commerce technology so that they can provide best service all the time, anywhere, over any communications channel. The time for highly developed E-Commerce technology is at present, if one doesn't want to be left behind by one's traditional and new-fangled competitors.

Some of the Banking online services offered by most Banks include:

- **Ticket booking:** You can facilitate payment of electricity and telephone bills, mobile phone, credit card and

insurance premium bills. We can also request bill payment alerts that remind us when a payment is due. Each bank has tie-ups with various utility companies, service providers and insurance companies, across the country. One-time standing lessons will make certain that you don't miss out on your bill payments due to lack of time.

- **Tax payment:** You can facilitate on-line tax payment. Each bank has tie-ups with various utilities of these services.
- **Bank account:** One can view bank account details, account balance, download statements and more.
- **Transfer of funds to accounts:** We can transfer funds from one to other accounts and can also transfer funds to third parties that we owe money to.
- **Online shopping is a web application:** The customers choose a product to put into a shopping cart, with the possibility of returning the product in case he/she changes the mind. At the checkout, there is the possibility to authenticate and to buy the products provided the customer's e-Deposit account has positive balance.
- **Portfolio Investment Services:** Opening a fixed deposit account cannot get easier than this. You can now open an FD online through funds transfer. The investors with interlinked De-mat account and bank account can now easily trade in the stock market and the amount gets automatically debited from their respective bank accounts and the shares will be credited in their De-mat account.
- **Pay Utility Services:** Pay Utility bills, Create Virtual Cards, Recharge Mobile, Pay any Visa Credit Card bills, etc.
- **On Demand Services:** Give a request for Cheque book, Demand Draft, Stop Cheque Payment, Debit Card Loyalty Point Redemption etc.
- **Credit card facility:** by using Internet banking, customers can not only pay their credit card bills online but also get a loan on their cards. Credit card users have a lot in store.

2. CONCLUSION

Today's new technology in Banking system is the most useful as it saves the client's time and money. Despite so many facilities that Internet banking offers us; we still seem to still have on our traditional method of banking and are reluctant to use online banking. In a traditional method, you get quarterly statements from the bank and if you request for a statement at your required time, it may turn out to be an expensive affair. But, through Internet banking, one can check transactions at any time of the day, and in fact multiple time. Internet banking will turn out to be the best option in terms of saving your money. The branch may some charge for the services / transactions. The bank branch would take eight days to distribute it at the doorstep. In case the fund transfer has to be

made outstation where the bank does not have a branch, the bank, demands outstation charges. But with the help of online banking, it is absolutely free. In addition, since Online Banking business is secure, many commercial concerns are also turning to doing their banking via the Internet. Banks require E-Commerce systems that are integrated with the entire chain of back office and business decision processes for most favorable flexibility, openness to changing market requirements, and profitability. Customer's demands have made clear the need for banks to stay at the cutting edge of E-Commerce technology so that they can provide best service all the time, anywhere, over any communications channel. Need for Online Commerce Banking is continuously increasing as more and more consumers gain addiction to doing their banking transaction in fast and easy way.

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Impact of Quality Education in Insurance Industry in India

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Abstract: Actuaries are professionals who specialize in evaluating the financial implications of contingent events. Their evaluations often involve the use of models that reflect both the stochastic nature of insurance and the time value of money. Since the insurance business exists to protect against the financial consequences of adverse events, it is not surprising that actuaries are involved in many aspects of the operations of insurers. The actuarial control cycle highlights the areas in which actuaries can contribute to the success of an insurer. As professionals whose work can affect the financial well-being of many people, actuaries should be subject to qualification requirements and professional standards of practice. Their work should be subject to oversight, to ensure that it is done in a professional manner. It is of interest to supervisory authorities, which can also benefit from the use of actuaries. Insurance business is all about probabilities and assumptions on occurrence of peril insured against and adequacy of premium to cover losses. Actuaries are involved in the development of insurance products and their pricing. They also help in monitoring solvency and valuation of the liabilities. Chartered Accountants and finance professionals look after Insurance accounts and valuation of assets and liabilities to assess solvency on an ongoing basis underline the need for Chartered Accountants and other financial professionals in insurance companies. The risk managers are usually engineers who have in-depth knowledge of perception of magnitude of risk, safety, hazards and loss minimisation in case of occurrence of an event resulting in a claim. Legal professionals: Insurance, being a contract between insured and insurer, interpretation of clauses, terms and conditions of coverage assumes a lot of significance in claim handling. Capital market professionals like bond traders, financial risk managers, traders, research professionals and business analysts play a key role in investment of policyholder funds so that they meet the requirements of safety, liquidity and return on investments to protect policy holders' funds and increase profitability within the regulatory framework. Human Resource experts: The insurance companies have to be professionally run and the work force should be adequately trained, posted appropriately and kept motivated for continued performance. Requirements on an ongoing basis make the role of HR professionals important in insurance industry. Marketing and Advertising specialists: Insurance is described generally as a product which is sold

rather than purchased. Protection from risk and not necessarily for returns as in the case of saving or investment products. Marketing of insurance products, therefore, assumes great importance for greater expansion of insurance business. The increasing use of social media, internet and electronic media has brought in a quantum change in approaches to marketing which was largely through print media. Integrating the various marketing media for a successful marketing campaign requires advertising and marketing skills making insurance an attractive field for marketing and advertisement specialists. IT Professionals, Underwriters, and Medical Professionals according to IRDAI (TPA) Regulations, 2001, at least one of the directors of the TPA shall be a qualified medical doctor registered with the Medical Council of India. Medical professionals have good opportunities in insurance as well.

Keywords: Education Insurance, Qualification, Risk Management, Insurance Product, IRDAI

1. INTRODUCTION

Insurance has a long history in India. Life Insurance in its current form was introduced in 1818 when Oriental Life Insurance Company began its operations in India. Insurance Institute were open to give knowledge about the product and its use. By 2012 Indian Insurance is a US\$72 billion industry. However, only two million people (0.2% of the total population of 1 billion) are covered under Medi Claim. With more and more private companies in the sector, this situation is expected to change. ECGC, ESIC and AIC provide insurance services for niche markets. So, their scope is limited by legislation but enjoy some special powers. The majority of Western Countries have state run medical systems so have less need for medical insurance. In the UK, for example, the corporate cover of employees, when added to the individual purchase of coverage gives approximately 11–12% of the population on cover due largely to usage of the state financed National Health Service (NHS), whereas in developed nations with a more limited state system, like USA, about 75% of the total population are covered under some insurance scheme.

ACTURAY: Actuaries are professionals who apply mathematics to financial problems. They evaluate the financial implications of contingent events, in other words, events that are not certain to occur. They are often involved in managing

the risks that can arise from undesirable contingent events. Actuaries evaluate the likelihood of future events. They also design ways to reduce the financial impact of undesirable events that do occur.

2. REVIEW OF LITERATURE

Authors B. Benjamin, (2016) Ph.D., F.I.A. and the late H. W. Haycocks mainly talks about in the study “The analysis of mortality and other actuarial statistics” various measures of mortality and gives a general introduction to subject matter dealt with in considerable detail towards the end of the study”

S Krishnamurthy, S V Mony, NaniJhaveri, Sandeep Bakhshi, Ramesh Bhat and M R Dixit (2005), in the paper titled, “Insurance Industry in India: Structure, Performance and Future Challenges”, clearly explained the status and growth of Indian Insurance Industry after liberalization and also presents future challenges and opportunities linked with the Insurance”

M. Rajkumari (2007) in the paper titled “A Study on Customers' Preference towards Insurance Services” examined the awareness, satisfaction and preferences of customers towards various Insurance services. The study has been undertaken by the researcher in order to identify the customer's attitude towards purchase of insurance products and services formats available through banks. He also gave suggestions to improve customer awareness on performance of banks in selling insurance policies”

According to **Ranjan, Jayanthi, Bhatnagar, Vishal, 2009**, ”The efficient and automated management of customer interactions is the need of today. The customer services have helped organizations to increase the interaction with customers. Organization also needs to analyse the customer data to uncover trends in customer behaviour and understand the true value of their customers. Analysing customer relationships from a lifetime perspective is critical for success

3. OBJECTIVES

- Find out the contribution of Actuarial science towards insurance Industry.
- Contribution of govt. sector and private sector towards education of Insurance

4. RESEARCH METHODOLOGY

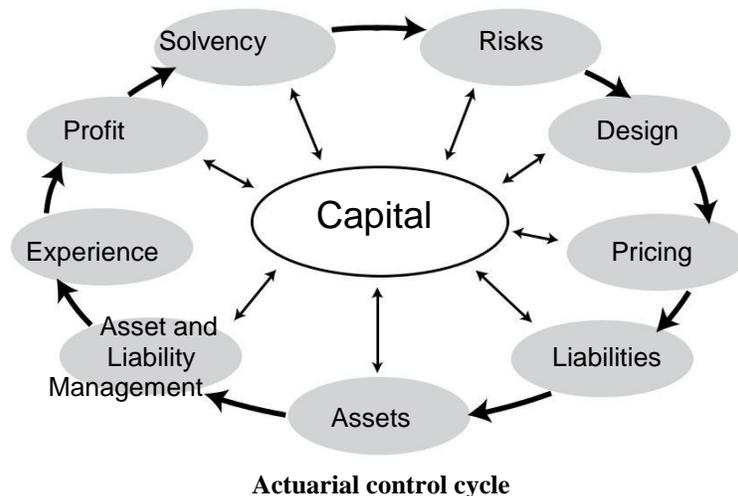
Present study is based on secondary data and same has been collected through Internet, Books and Journal, Magazines and websites. Mainly data has been collected from the annually reports of the IRDAI. This study used mean value, growth rates etc. are used to analysis the data.

What is an actuary?

Actuaries are professionals who apply mathematics to financial problems. They evaluate the financial implications of contingent events, in other words, events that are not certain to occur. They are often involved in managing the risks that can arise from undesirable contingent events. Actuaries evaluate the likelihood of future events. They also design ways to reduce the financial impact of undesirable events that do occur. To do their work, actuaries must have a high level of technical knowledge. In the insurance industry, actuaries can be involved in all types of insurance: life or nonlife; and direct insurance or reinsurance. Although actuaries are often employed by insurers, many are employed by consulting firms and provide services to more than one insurer. Some insurance actuaries work for supervisory authorities, as either employees or consultants.

Areas of actuarial work

The actuarial control cycle shows that, within the business environment, there are many interrelated factors that affect the ability of an insurer to generate and maintain sufficient capital to ensure that it can meet its obligations to policy-holders.



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Design

Actuaries often play important roles in the product design process. They assist in identifying market needs, for example, through the analysis of sales patterns, competitors' products, and social and demographic trends. They work with others, such as marketing, under-writing, and investment experts, on product design teams. Their work can involve assessing the feasibility of product design features suggested by others, as well as proposing alternatives for consideration. Actuaries are also involved in designing compensation schemes for the intermediaries that will sell the products. The compensation schemes must be attractive to the intermediaries, affordable, and provide incentives to promote the sale of high quality business.

Pricing

If an insurer is to be successful in the long term, its products must be priced adequately to produce profits. Actuaries are often heavily involved in the pricing process, particularly for long term life insurance products. They develop assumptions for the various cost factors, taking into account the design of the product, the insurer's past experience with similar products, the experience of other insurers, and expectations of future demographic and economic conditions.

Actuaries use models to project future cash flows from the product, solving for the premium rates that will produce the desired profit margins. However, rarely does the actuary's job end there. The calculated premium rates might be uncompetitive, at least for some potential policyholders, or outside of the constraints set by regulation. In such cases, the actuary may need to adjust the premium rates, for example, lowering them at some ages and raising them at others, or modify features of the product design.

Liabilities

The nature of the insurance business, in which premiums are collected upfront and claims and other benefits are paid at a later date, some-times much later, means that liabilities for future benefits are typically the largest item in an insurer's balance sheet. These liabilities are some-times called technical provisions. Most technical provisions are linked to the amounts insured under policies, although some are simply accumulations of amounts deposited by policyholders with the insurer.

Some technical provisions relate to outstanding liabilities for events that have already occurred, for example, if a policyholder has submitted a claim to the insurer but the insurer has not yet made payment. Other technical provisions relate to liabilities for which a triggering event has not yet occurred. The primary objective when establishing technical provisions is to ensure that they adequately recognize the extent of the insurer's obligations to policyholders.

Assets

It is not enough that an insurer establishes technical provisions in a conservative manner. The insurer must also have sufficient and appropriate assets to back up these provisions, so that it can meet its obligations when they come due. The investment options for insurance companies are usually limited by regulation. Actuaries may participate in the selection of investment managers who will be responsible for investing some or all of the insurer's assets. They can help to establish appropriate targets for performance of the investment managers and evaluate actual performance with reference to those targets. Some actuaries work in the investment operations of insurers, selecting investments and managing the mix of investments in the portfolio.

Asset and liability Management

The main objective of asset and liability management (ALM) is to reduce the risk to an insurer that exists if assets and liabilities are mismatched, for example, if a change in market conditions might cause an increase in the value of liabilities while also causing a decrease in the value of assets. On a more positive note, ALM can help an insurer to invest its assets more effectively and generate higher profits. Actuaries are often responsible for modelling the asset and liability cash flows, and assessing the effects of various risk factors on the results. They develop techniques and measurement tools that can be used in the ALM process to reduce the effects of these risks. For example, a basic approach to ALM involves measuring the average duration of expected liability cash flows and investing in a portfolio of assets that has the same average duration.

Experience analysis

Experience analysis is useful not only in setting assumptions but also in assessing how closely actual experience has corresponded with previous assumptions. Such assessments are essential to the identification of sources of profits and losses of an insurer. They enable an actuary to revise the assumptions used in calculating technical provisions to reflect changing conditions, helping to ensure that the provisions will be adequate. The information can also use in to manage the business more effectively, for example, by revising underwriting criteria to improve the quality of business, targeting marketing efforts to more profitable products and consumers, and adjusting premium rates to achieve profit objectives.

Profitability

Actuaries are involved in the analysis of profitability in several ways. They can determine the sources of profits or losses. In some cases, actuaries calculate the present value of anticipated future profits of the insurer, referred to as embedded value. Actuaries develop dividend and bonus scales for participating or with-profits business, and present their recommendations to

the board of directors for approval. On a broader scale, actuaries are often involved in developing and implementing business strategies designed to increase the profitability of an insurer. For example, they participate in identifying other insurers that might be acquired or with which an insurer might merge. They assist in determining the value of acquisition candidates.

Solvency

Insurers must remain solvent if they are to meet their obligations to policyholders, not to mention generating a positive return on the investment of their owners. Most, if not all, jurisdictions impose requirements regarding the minimum amount of capital that must be maintained by an insurer to help ensure its solvency. Insurers must maintain at least enough capital to meet regulatory requirements, or else face the risk of being forced to cease doing business.

However, if an insurer has too much capital in relation to the size and risk of its business, it will be very difficult for the insurer to generate a sufficient return on capital to satisfy its shareholders. Actuaries are often involved in the assessment of solvency and management of capital. They can calculate the minimum capital required for regulatory purposes, both currently and based on projections of future growth in business. Actuaries use models to perform the stress tests required by regulators and to determine economic capital.

5. ROLE OF PUBLIC AND PRIVATE SECTOR INSURANCE IN EDUCATION IN INDIA

Introduction

India is a country of a large proportion of persons being in employable age. Adequate prospects for employment and consistent earnings help in sustenance and utilization of the potential of this work force for national growth. Challenges at work and incentives on meeting them provide the environment for job satisfaction obviating frequent change of job for better prospects. Financial sector provides ample employment opportunities because of low levels of financial inclusion and high potential for growth in the sector. Insurance, within the financial sector, plays a vibrant role in the economy and there are a variety of risks in day to day life requiring insurance protection.

In simple terms, insurance is a mechanism of sharing of losses of a few by many. Though the pooling mechanism exists in the society since ages in various forms, the modern form of insurance can be traced to Europe, starting with marine expeditions in pursuit of business. By the end of the 19th century, health insurance emerged as a means of health care financing and is considered as a means of social security protection both by employers and also by Governments in various countries including India. This diversity of various classes of insurance business requires human resources of different levels of education, technical know-how and expertise.

After the advent of financial sector reforms in 1990s, the insurance industry was opened for private participation and foreign equity in India in early 2000. Insurance Regulatory and Development Authority of India (IRDAI) is a statutory body formed in April, 2000 under an Act of Parliament by Government of India to protect the interests of the policyholders and to regulate, promote and ensure orderly growth of the insurance industry in India. At the time of opening up of the sector, there was only Life Insurance Corporation of India offering life insurance products; four subsidiary companies under the flagship of General Insurance Corporation of India were offering general insurance or non-life products; and ECGC was a specialised insurer.

After allowing private sector companies into insurance sector, the industry has so far witnessed the entry of 23 new private companies in the life segment and 22 in the non-life segment. As such, insurance industry is poised to provide secure employment and job satisfaction for a large number of individuals with varying levels of educational qualifications, knowledge and skill sets. Thus, it provides an ideal platform for employment of the educated youth both in urban and rural areas.

6. EMPLOYMENT OPPORTUNITIES

Various entities under the insurance sector which offer employment opportunities are indicated below:

A. Insurers registered with IRDAI:

At the end of March, 2018, there are 53 insurance companies operating in India of which 24 are in the life insurance business and 28 are in non-life insurance business and one company in reinsurance business.

Life insurers: From just one LIC of India in 2000, there are 24 insurers offering Life insurance in India in 2015.

	FY 2000-01	FY 2018-19
Number of Life Insurance Companies	5	53
No. of individual agents	1, 15, 709	12, 822, 324
No. of branches	Approx. 2, 000	12, 190

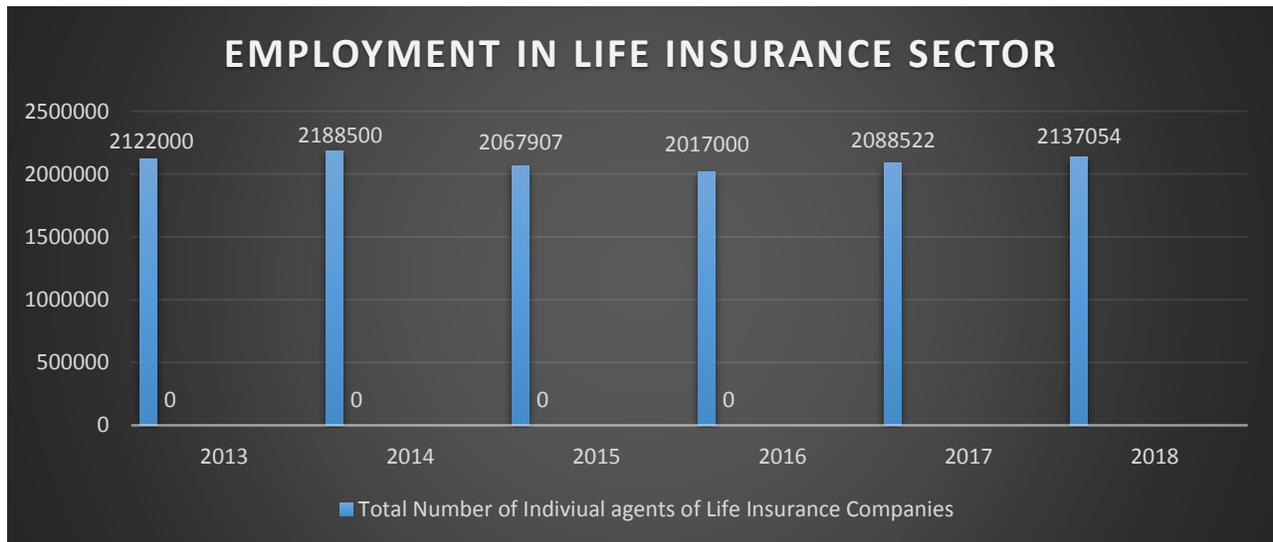
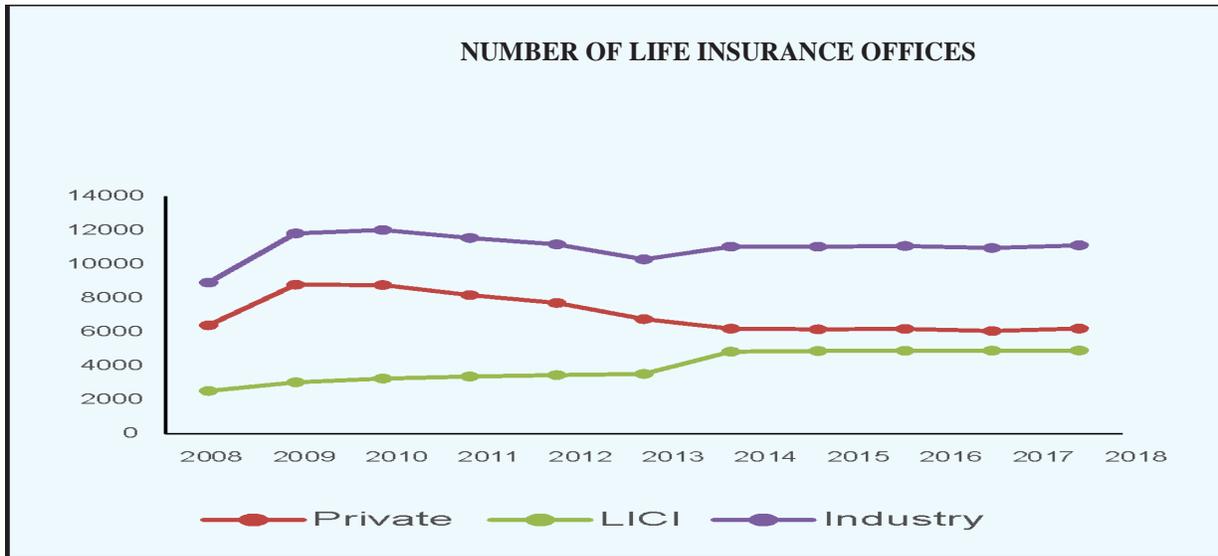
Number of offices more than doubled in the last five year. Number of direct employees in Life Insurance Industry (Source: LI Council) increased from 1, 22, 867 in 2000-01 to 2, 49, 221 in 2014-15.

7. SOURCE:IRDAI ANNUAL REPORT

The number of individual agents has increased to nearly 20 times the number in 2000-01. As on 31st March, 2018, there are 526 Corporate Agents working for Life insurance industry. Life insurance industry recorded a premium income of `458809.44 crore during 2017-18 as against `418476.62 crore in the previous financial year, registering growth of 9.64

percent (14.04 percent growth in previous year). While private sector insurers posted 19.15 percent growth (17.40 percent growth in previous year) in their premium income, LIC recorded 5.90 percent growth (12.78 percent growth in previous year). During 2017-18, life insurers issued 281.97 lakh new individual policies, out of which LIC issued 213.38

lakh policies (75.7% of total new policies issued) and the private life insurers issued 68.59 lakh policies (24.3% of total new policies issued). While the private sector achieved a growth of 8.47% in the number of new policies issued against the previous year, LIC achieved a growth of 5.99%.



SOURCE: IRDAI ANNUAL REPORT

- The potential is still high considering the fact that the extent of life insurance penetration is still low in the country.
- General insurers: From just four general insurers in the year 2000, there are 27 general insurers operating in India in 2018. During the F.Y. 2017-18, the following 4 new companies have been registered as General Insurance Companies in India:
 - DHFL General Insurance Limited (Date of Registration: 22.05.2017, Reg no.155)
 - Acko General Insurance Limited (Date of Registration: 18.09.2017, Reg no:157)
 - Go Digit General Insurance Limited (Date of Registration: 20.09.2017, Reg no.158)
 - Edelweiss General Insurance Company Limited (Date of Registration: 18.12.2017, Reg no.159)

NUMBER OF GENERAL INSURERS' OFFICES – TIER-WISE AS AT 31.03.2018								
General Insurers	Year	Tier-I	Tier-II	Tier-III	Tier-IV	Tier-V	Tier-VI	Total
Public sector	2017	4052	1103	1744	1470	100	49	8518
	2018	4087	1107	1693	1256	92	61	8296
Private sector	2017	1874	48	15	7	2	0	1946
	2018	1982	55	4	2	0	0	2043
Specialized sector	2017	82	1	0	0	0	0	83
	2018	86	0	0	0	0	0	86
Total	2017	6008	1152	1759	1477	102	49	10547
	2018	6155	1162	1697	1258	92	61	10425
<i>Note: Tier I: Population 1, 00, 000 & above;</i>				<i>Tier IV: Population 10, 000 to 19, 999;</i>				
<i>Tier II: Population 50, 000 to 99, 999;</i>				<i>Tier V: Population 5, 000 to 9, 999</i>				
<i>Tier III: Population 20, 000 to 49, 999;</i>				<i>Tier VI: Population less than 5, 000</i>				

SOURCE: IRDAI ANNUAL REPORT

8. OTHER ENTITIES CONTRIBUTION

Licensed Distribution Channels:

1. Bank assurance: Banking sector serves as the most important corporate insurance agency for distribution of insurance products. They are in tie up with insurance companies for selling insurance using their own network. Banks provide immense opportunities of employment. In 2017-18 the banks contributed to nearly 25.19 per cent in life insurance new business.

ESIC is governed by Employees' State Insurance Act, 1948 and does not come under purview of IRDAI 2 Postal Life insurance was introduced on 1st February, 1884 for the benefit of postal employees which has been extended to others over period of time. This oldest life insurer comes under Directorate of PLI under the Department of Posts and has been assigned the task of offering life insurance by the Central Government. 3 These are exempted insurers, governed by Insurance Act, 1938 and relevant provisions of law 4 Controlled and Supervised by RBI12

2. Corporate agents: Corporate agents are engaged in the business of insurance distribution. As on 31st March 2018, there were 526 corporate agents. Their market share in premium is approximately 11%. Motor Dealers are also administering insurance policy sale, claim intimation and cashless settlement of claims at their end as Corporate Agents of insurers.
3. Insurance brokers: From 2002, broking companies are increasing in number and opening more offices and thereby employing more and more people to procure larger market share of insurance premium. The 426 valid brokers comprise of 363 direct brokers, 58 composite

brokers and 5 reinsurance brokers and the market share of premium sourced through brokers went upto 25% in 2017-18. The contribution of Brokers is 1.28%, to the life insurance industry NB premium under individual business

4. Individual Agents (Advisors): Insurance Agents have been working in insurance sector for decades. With licenses from IRDAI, the number of agents in Life Insurance increased enormously to 20.89 lakh as on 31st March, 2018 in 11.49 lakh of LIC and 9.34 lakh for all other private insurers).Market share of premium in Non-Life brought by Individual Agents increased up to 36%(2015) whereas in case of life insurance business; it is nearly 60% of new business in case of life insurance business in 2018.
5. Micro Insurance Agents: The number of micro insurance agents as at 31st March 2018 stood at 52907; of which 19183 agents pertained to the LIC and the remaining 33724 represented the private sector life insurers. Out of the total 52, 907 MI agents of Life insurance industry, NGOs form 12.7%, Self Help Groups (SHGs) form 0.7%, Micro Finance Institutions (MFIs) form 0.6%, Business Correspondents (BCs) form 0.2%.
6. RAP & VLE FOR RURAL AREAS – Common Services Centres (CSC) under E- Governance Services India Limited has been granted license by IRDAI to market specific products through RAP (Rural Authorised Persons) or VLE (Village Level Entrepreneurs) to market insurance products. Under this system, there is a huge scope for employment to rural people.
7. Insurance Repositories have been introduced to hold insurance policies in electronic form. They handle insurance accounts of policy holders electronically all over India.

List of Insurance Repositories till date are given below:

THIRD PARTY ADMINISTRATORS: (TPAs):

Third Party Administrators opened up offices in 2001 as intermediaries for the provision of health services to insurance companies. As on 31st May 2018, there are 27 such TPAs working all over India providing identity cards for availing cashless facility, direct settlement of hospitalization bills of networked hospitals and scrutiny and reimbursement of claims relating to treatment at non-networked hospitals.

CONSULTANTS:

Specialists in respective areas are appointed as Consultants for managing the following:

1. Investments
2. Advertisements
3. Infrastructure
- 4.IT Solutions
5. Risk Management
6. Reinsurance
7. Actuarial Consultancies
8. Call Centres

REGULATOR:

1. Insurance Regulatory and Development Authority of India (IRDAI) with its Head Office at Hyderabad has opened its Regional Office at New Delhi and is in the process of opening office at Mumbai. With the expansion of insurance sector, it needs persons with technical expertise in various aspects of insurance.

2. Self-regulatory bodies / Professional organisations-

- a. Life and General Insurance Council
- b. Indian Institute of Insurance Surveyors and Loss Assessors (IIISLA)
- c. Institute of Actuaries of India (IAI)
- d. Insurance Brokers Association of India (IBAI)
- e. Insurance Information Bureau (IIB)

TRAINERS, EDUCATORS, EXECUTIVE COACHES:

1. Agents Training Institutes (ATIs) to train prospective agents for licenses and for renewal of licenses are now 1611 all over India for offline class room training. There are 20 online ATIs also.

2. Accredited Institutes for Training of Brokers for fresh license and renewals

3. Training Centres for training fresh recruits and for conducting Management Development Training programs and mandatory pre-promotional training programs. For this purpose, PSUs have Corporate Training Institutes, Zonal and Regional Training Centres. These employ academicians, subject matter specialists and persons in support services like maintenance of hostel, catering etc.

4. Examiners for assessing Insurance examinations

i) Insurance Institute of India– (earlier called the Federation of Insurance Institutes) Formed in 1955 to promote the education and training in insurance and for advanced education in

insurance. One can go for the International Certification in “Life & General Insurance”. There is a provision for Insurance Agent's Examination under Digital Certification. There are many other professional examinations that are associated with insurance in India, viz. a. Licentiate level examination b. Associate level examination c. Fellowship examination d. Specialised Diplomas e. Certificate in Insurance salesmanship f. Examination for Agency licence is conducted by III.

ii) National Insurance Academy (NIA), Pune conducts examinations for brokers and Web Aggregators.

iii) Institute of Insurance and Risk Management (IIRM) promoted by IRDAI also

Offers various courses in insurance and risk management.

CLAIMS HANDLING AGENCIES

i) Surveyors / loss assessors: The claim servicing is the moment of truth under insurance which the insurer has to oblige in terms of insurance contract.

Independent qualified professionals from diverse fields like Engineering, Agriculture, chartered accountancy etc., can enter this field as licensed surveyor and loss assessor for assessing the losses in case of general insurance claims and provide valuable service to general insurance companies and policyholders. They are experts in their field as well as in insurance.

ii) Investigators: The services of investigators are used for investigation of genuineness and quantum of claims especially early claims, or claims which appear to be fraudulent. They are employed for claim assessment and settlement.

iii) Legal Officers / Lawyers / Advocates – They are necessary for dealing with disputes relating to insurance - Customer complaints - Matters before Ombudsmen - Arbitration matters - Motor Third party claims in Motor Accident Claim Tribunals - Consumer cases in District, State and national level forums - Criminal cases - Cases before High Courts / Supreme Court

GRIEVANCE HANDLING

Grievances relating to insurance are required to be resolved and responded to. Grievance Redressed Officers are appointed for the purpose. Call centres are set up to answer queries, take policy servicing requests, receive, register and intimate status of complaints and clarify matters relating to insurance. Insurance complaints can be taken up with IRDAI, Ombudsmen, Government portal (DARPG), Consumer Forums, etc., if unresolved.

OTHER SPECIALIZED AGENCIES:

Matters like Audit, Vigilance, Tax (including service tax), Labour and Industrial relations matters, advertising and marketing, computer solutions including hardware, software, database management and disaster management, overseas claims handling, reinsurance, Technological services,

mobilization of equity or other forms of capital, Rating, Actuarial assessment, Official language implementation etc., require interaction with outside agencies and specialists.

9. CONCLUSION

Actuaries are professionals who specialize in evaluating the financial implications of contingent events. Their evaluations often involve the use of models that reflect both the stochastic nature of insurance and the time value of money. Since the insurance business exists to protect against the financial consequences of adverse events, it is not surprising that actuaries are involved in many aspects of the operations of insurers. The actuarial control cycle highlights the areas in which actuaries can contribute to the success of an insurer. As professionals whose work can affect the financial well-being of many people, actuaries should be subject to qualification requirements and professional standards of practice. Their work should be subject to oversight, to ensure that it is done in a professional manner. It is of interest to supervisory authorities, which can also benefit from the use of actuaries.

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Indian Higher Education-A Journey with TQM

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Abstract: *The nature of advanced education is everybody's concern today. Different investigations and commission reports at authority level has perceived the equivalent and given proposals for its improvement. Government and other sacred organizations are taking fundamental measures. Be that as it may these by themselves, won't fill the need except if establishments and staff take proactive activities furthermore, measures. A test of outside organizations entering the Indian advanced education is going to represent the risk of even survival of poor performing establishments. The benefits of Total Quality administration have been esteemed by numerous organizations around the globe. Numerous associations have accomplished perfection and aggressive lead by putting into training TQM approach. The vast majority of the standards of TQM can be actualized in the zone of instruction and preparing. This paper features the pith of TQM and clarifies how advanced education foundations can improve the quality by actualizing TQM standards.*

Keywords: *Higher Education, Total Quality management, Obstacles and Implementation*

1. INTRODUCTION

Higher Education system are undergoing a process of change due to competition. The change is caused by many factors such as organizational demands, change in demographic environment and, competition so on. To make sure that the higher education system meets the requirement of the company, demographic and globalization standards, it is mandatory that the higher education system should implement appropriate syllabus, teaching materials and updated teaching pedagogy which not only current but efficient and effective also from students perspective.

2. CONCEPT OF TQM

Quality means degree of fineness and conformance to requirements. TQM is a process which focuses on the customer satisfaction through continuous improvements by emphasizing on the efficiency and its processes. The objective of TQM is to meet the needs of the customers. Thus, it is concluded that TQM concept revolves around the customer.

3. OBJECTIVES OF THE STUDY

1. To study the relevance of quality in higher education institutions

2. To discuss the actions required for realization of TQM principles

3. To study the current scenario of Indian Education.

4. TQM IN EDUCATION

TQM has deep roots in education since late 80s and was begun in practice in colleges and institutions. The main focus was on quality of teaching system rather than on examination results. The curriculums are prepared in such a way that it delivers quality education and also point out the system failure parameters.

5. CONCEPT OF QUALITY OF HIGHER EDUCATION

There is no one unique definition of quality in higher education, even then, it is defined on several parameters as:

- **Quality to fineness:** It holds as its goal to be the best.
- **Quality as zero errors:** This concept is applied to the products which prescribed standards but in education student is not treated as commodity
- **Quality as suitability:** This approach is applicable to customers' needs and desires with varied standards of qualities.
- **Quality as conversion:** It is applicable to learners, empowers the students with specific skills and knowledge which enables them to serve in the learned society.
- **Quality as threshold:** Threshold means the required set of certain standards established by the institutions.
- **Quality as value for money:** Its talks about the accountability based on the needs as the value for money.
- **Quality as enhancement or improvement:** It speaks about the continuous improvements in all kinds of inputs. But here the inputs are here are different from the industry inputs as some differences between education and businesses, which are as follows:
 - Institutions are not manufacturing units.
 - Students are not commodity.
 - Education impartment is not a business.

6. HIGHER EDUCATION PARTNERS

It is the common perception that customer is the king. With this perception it is difficult to call a student as a customer. We

can say that student is one of the pillars of the higher education. The utmost care of this stakeholder is required.

7. IMPLEMENTATION OF TQM

Assigning Quality Function: These identifies the needs and expectations and develop parameters with integrity efforts of internal and external stakeholders.

Policy Framework: Assigning quality functions and policy framework are essential part of the continuous learning and improvement process. The feedback system evaluates the gap between the quality functions and the policy framework assignments.

Process Management

Process is a sequence of activities with a recognized beginning and end, using their sources of an organization, with a purpose of creating value for internal and external customers repeatedly.

Benchmarking

Benchmarking is a process for self-evaluation and self-improvement through the organized and mutual comparison of practice and performance with prescribed norms of the organizations and of society.

8. OBSTACLES IN QUALITY IN HIGHER EDUCATION

There may be some hindrances in the implementation of TQM in education because opinion, thinking, belief and attitude differ among individuals. Obstacles in implementing TQM in higher education include

- Leadership
- Customer identification
- Cultural
- Organizational Conversion.
- Uncertainty in Customer Recognition
- Team Spirit
- Empowered Employees

Future of Quality in Higher Education

India has embraced gigantic auxiliary and foundational changes that have begun to yield empowering results. The nation has been touted to have the top tier post-auxiliary instruction framework at present. A portion of the huge components that have added to this development and can help imagine the 2030 dream incorporates:

- Expansion of a separated college framework with a three-layered formalized structure
- Transition to a student focused worldview of training
- Intensive utilization of innovation

- Reforms in administration

India is among top 5 nations comprehensively in referred to look into yield, with 23 colleges in worldwide top 200!

By 2030, India will be among the most youthful countries on the planet. With almost 140 million individuals in the school going age gathering, one in each four alumni on the planet will be a result of the Indian advanced education framework. In the course of the most recent two decades, India has amazingly changed its advanced education scene. It has made broad access to ease fantastic college instruction for understudies everything being equal. With well-arranged extension and an understudy driven learning-driven model of training, India has bettered its enrolment numbers as well as has drastically improved its learning results. A separated three-layered college framework – where every level has a particular vital target – has empowered colleges to expand on their qualities and provide food crosswise over various classes of instructive needs.

Further, with the compelling utilization of innovation, India has had the capacity to determine the longstanding strain among brilliance and value. India has likewise attempted huge scale changes to better personnel understudy proportions by making showing an alluring profession way, extending limit with regards to doctoral understudies at research colleges and delinking instructive capabilities from educating qualification.

9. CONCLUSION

While it is essential to address the current inadequacies in the advanced education framework, it is increasingly imperative to move towards an intense and optimistic vision. We emphatically trust that a stratified three layered structure that empowers consistent vertical and even portability of understudies would most likely make the ideal scholarly, financial and social esteem. The usage structure proposes the understudy at the inside stage to encourage advancement and decision, an ICT design that will build access, value and quality, and a straightforward administration system that will empower self-governance and self – guideline. A structure for administration has been nitty gritty in the addendum record which proposes an instrument dependent on results and solid institutional responsibility, plainly depicting the job and obligations of the legislature just as open and private advanced education organizations.

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Autonomy in Higher Education- A tool for Quality Enhancement

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Abstract: *Creating successful universities needs a supportive governance structure in which they have autonomy to achieve objectives, whether research or teaching, with appropriate level of accountability. Indian higher education system is very complex with very less amount of autonomy. The institutional autonomy basically means giving Institution a large degree of freedom to steer itself to achieve its goals and objectives. The autonomy is expected to provide a better framework through a decentralized management culture. This paper discusses about the meaning of institutional autonomy, its different types, relation between autonomy and quality, key issues of autonomy, meaning of autonomy and current level of autonomy in Indian Universities.*

Keywords: *institutional autonomy, Higher education institutions, autonomy and accountability*

1. INTRODUCTION

The institutional autonomy basically means giving Institution a large degree of freedom to steer itself to achieve its goals and objectives. The autonomy is expected to provide a better framework through a decentralized management culture. Creating successful universities needs a supportive governance structure in which they have autonomy to achieve objectives, whether research or teaching, with appropriate level of accountability.

Different Types of Institutional Autonomy

Substantive autonomy	Procedural autonomy
<ul style="list-style-type: none"> • Curriculum design • Research policy • Entrance standards • Academic staff appointments • Awarding degree 	<ul style="list-style-type: none"> • Budgeting • Financing management • Non-academic staff appointments • Purchasing • Entering into contracts

2. LITERATURE REVIEW

P. Aghion (2009) has looked at the relationship between autonomy and outcomes amongst the top World Universities

as ranked by the Shanghai Jiao Tong University (SJTU) Rankings of Universities. The outcome variable of Aghion is research (as reflected by rankings under the SJTU ranking) and innovation (as reflected in the number of patents registered). They find that the autonomy factor is maximized for those European universities that share a number of characteristics including that they

- (i) do not need to seek government approval of their budget
- (ii) select their baccalaureate students in a manner independent of the government
- (iii) pay faculty flexibly rather than based on a centralized seniority /rank based scale
- (iv) control their hiring internally,
- (v) have low endogamy
- (vi) own their own buildings
- (vii) set their own curriculum
- (viii) have a relatively low percentage of their budget from core government funds, and
- (ix) have a relatively high percentage of their funds from competitive research grants

UNESCO study in 2014, covering five countries in Asia, Cambodia, China, Indonesia, Japan and Vietnam, focused on institutional autonomy and the role it plays in governance and management of HEIs in enhancing the overall effectiveness of higher education systems. Higher education institutions (HEIs) were progressively given authority to take decisions in academics and administration and financial aspects (mobilization of financial resources and their deployment). At the national level, in most of these countries, quality and educational outcomes are linked with industry and society need. They were also integrated with policy-making, regulating, facilitating and negotiating. Quality assurance agencies have thus become a key instrument for implementing Monitoring and Evaluation

In all these five countries, increased autonomy was accompanied by the introduction of new accountability measures. It was observed that the translation of autonomy from Concept to Governance, in operational practice, depends on institutional leaders. Institutions with strong leaders

benefited more from autonomy than those with less effective leaders. In all cases, the governance reforms have further strengthened the role of the institutional head. It was also observed that delays in decision-making have been reduced, as a result of greater autonomy

3. RESEARCH METHODOLOGY

This paper is based on descriptive qualitative research. The data for this paper has been collected through the experience and observations. The objectives of this paper is to discuss about the meaning of institutional autonomy, its different types, relation between autonomy and quality, key issues of autonomy, meaning of autonomy and current level of autonomy in Indian Universities.

Autonomy & Quality

Enhanced autonomy is intended mainly to decentralize decision making and create an enabling environment to improve the teaching – learning – evaluation processes. Studies of Higher education institutions (HEIs) around the world suggest that countries have been modifying their system-wide governance structures to devolve management and supervision of their universities to achieve the goals of autonomy, with accompanying levels of accountability. Increasingly, there is shift from being “state controlled” to “state supervised” systems across the world. The consensus among the higher education specialists that autonomy can ensure development of institutions that can be responsive and flexible, in line with the changing demands of the industry and society. Developing one set of rules of governance, without examining the contextual factors, may not be able to deliver the right balance of autonomy and accountability. Governments have to evolve alternate mechanisms of accountability, which are outcome based. These mechanisms may include encouraging HEIs to prepare strategic plans and monitor the outcomes and signing performance contracts, whereby incentives are provided to high performing institutions. A committee, constituted by Central Advisory Board of Education (CABE) in 2005 studied Autonomy of HEIs, covering academic, administrative and financial aspects

4. RECOMMENDATIONS

The recommendations given includes the measures to enhance the autonomy of HEIs having potential for excellence and to institutionalize regulatory provisions for promoting autonomy and accountability of the institutions, to link the degree of autonomy with the level of accreditation (by NAAC), which was considered to be indicative of the potential for excellence. Set up a National Testing Service (NTS), along the lines of ETS in USA, to evaluate the educational standards across the country. Some recommendations related to academic autonomy are being implemented by UGC, critical ones in financial and administrative aspects, with regard to approval number of posts (for teachers) and their recruitment in government funded universities are not yet implemented. This resulted in acute shortage of teachers, which has impacted the

quality of education in most of the government funded universities

Issues Affecting Autonomy

Major issues fall under two categories – restrictions and limitations as per the regulations (University Acts and Regulatory/Guidelines from UGC) and operational decision making. They affect both government funded and private universities, though in different ways and to different degrees. In government funded universities, major issues include government’s influence on vital aspects like appointment of Vice Chancellor .Functioning of the governing bodies like Senate, Syndicate, Academic Council etc. and Government control on opening of new colleges or grant of affiliation to new colleges. Wide powers are vested in the Chancellor, which position is vested with Governor in State Universities, who find it unwieldy to exercise, due to preoccupation with other responsibilities. In the case of private universities, most of the issues are with regard to setting up the university, scope for expansion (geographical as well as mode of academic delivery) and sources of funding. As per the current UGC guidelines, a private university can be set up only through a State Private University Act and has to be unitary in nature, thereby limiting the scope for expansion. A study of the Private Universities Acts of various states reveals the difference in governing mechanisms as well as operational guidelines, including admission of students. Besides, restriction on jurisdiction of the state, there are regulatory restrictions with regard to mode of delivery, like distance education. Restrictions on type of sponsoring institutions constraints the sources of funding. Need for compliance to guidelines of multiple regulatory bodies (Central and State government) affects governance.

What is Accountability?

The notion of accountability is difficult to define in precise terms. However, broadly speaking, accountability exists when Institutions and their functionaries are subject to information or justification for their actions .Therefore, the concept of accountability involves two distinct stages: answerability and enforcement.

Current Levels of Accountability

Currently, neither public nor private HEIs in India are required to develop strategy plans, although a few individual institutions do so voluntarily. All public and private HEIs are regularly expected to update performance, though most of them do not comply. Most allocations to public HEIs are for recurrent expenditure, which constitute about 90% of the funds. These funds are subject to external auditing on a line item basis. There are currently no mechanisms to allocate money on the basis of performance, for either public or private institutions. Hence, over a period of time, there is a tendency not to focus on predefined outcomes, unless driven by market forces.

On 20th March, 2018 UGC has approved the full autonomy for 62 higher educational institutions of India. Five central universities, 21 state universities and 26 private universities have been given this status. Eight colleges have also been given autonomous status under the autonomous colleges' regulation. These quality institutions will get complete autonomy by which they can start

- new courses
- new departments
- new programmes
- off campuses
- skill courses
- research parks
- appoint foreign faculty
- take foreign students
- offer variable incentive packages
- Introduce online distance learning
- institutes are also going to get into the academic collaboration with the world's top five
- hundred universities
- admission procedure
- fees structure and
- curriculum

Central Universities with Autonomous Status

- The central universities include
- Jawaharlal Nehru University (JNU)
- Aligarh Muslim University (AMU)
- Banaras Hindu University (BHU)
- University of Hyderabad and English and Foreign Languages University, Telangana.

Autonomous status to State Universities

The state varsities include

- Jadhavpur University

Andhra University

- Aligappa University
- National University of Law
- Utkal University
- Kurukshetra University
- Osmania University
- Guru Nanak Dev University
- University of Jammu,
- University of Mysore
- Anna University
- Punjab University and
- University of Madras among others.

5. CONCLUSION

Previous researches show that the greater amount of autonomy to the universities provides fruitful results in term of their performance. The notion of accountability is difficult to define in precise terms. However, broadly speaking, accountability exists when Institutions and their functionaries are subject to information or justification for their actions. On 20th March, 2018 UGC has approved the full autonomy for 62 higher educational institutions of India. Five central universities, 21 state universities and 26 private universities have been given this status. Eight colleges have also been given autonomous status under the autonomous colleges' regulation. This is a positive step taken for the development of Higher education institutions.

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Code of Ethics in Higher Education: Need of the Hour

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Abstract: Just as water needs the wind to create waves of change so does every person need a helping hand to achieve the unattainable and education is that helping hand which can guide the persons as well as the nations to the path of progress and success in this rapidly changing world. Primary education prepares a base for the whole education but higher education provides the cutting edge and the specialized skills required to move ahead. Higher education is the peak of the educational journey of any person and it aims to contribute to the development and improvement of the society as a whole in an extendable manner. Higher education should be able to meet the needs of all sectors of human activity. The World Bank and UNESCO report (2000) rightly presents a powerful message that "higher education is no longer a luxury. It is essential for survival. So we are interested in higher education because we are interested in our survival". So, the importance of quality higher education is immense. But, Indian higher education does not stand anywhere among the world higher education in terms of quality and it is a matter of great concern for all the stakeholders of education i.e. students, teachers, institutions, society as a whole and policy makers etc.

So, the higher education needs a total transformation to achieve the qualitative aspect of the higher education according to international standards. Academic dishonesty has become an important issue in institutions of higher education. Codes of conduct can provide a basis for ethical behaviour in colleges and universities. Survey respondents were generally supportive of the concept of codes of ethical conduct in colleges and universities. The results of this study indicate that college codes of conduct tend to follow a "low road" approach. The results also suggest the needed improvements in college and university codes of conduct such as greater emphasis on preventing financial, scientific, and academic fraud; more inclusion of the faculty in the process; and establishment of a proper process for implementation of the code. This paper also talks about the factors which are influencing the quality of higher education in India and then recommends some of the ways through which the quality can be implemented to the Indian higher education system

Keywords: Code of Ethics, Higher Education, Institutions, Quality

1. INTRODUCTION

We are living in an important and epoch- making age. This is an age of accelerated change and the age of unprecedented developments and Education is the tool through which persons, societies and nations can live, progress and achieve success. Education is an enlightening experience which helps in making a meaning out of the complex realities of life. In India we have always believed that education is a liberating as well as evolutionary force, which enables the person to rise from mere materiality to superior planes of intellectual and spiritual consciousness. Education is a dialogue between the past, present and future, so that the coming generations receive the accumulated lessons of the heritage and carry it forward. In the last two decades India has made rapid progress in the expansion of higher educational facilities and institutions and at present India's higher education system is the second largest in the world, after the United States. Indian higher education system has expanded at a fast pace by adding nearly 20, 000 colleges and more than 8 million students in a decade from 2000-01 to 2010-11. As of 2011, India has 42 central universities, 275 state universities, 130 deemed universities, 90 private universities, 5 institutions established and functioning under the State Act, and 33 Institutes of National Importance. Other institutions include 33, 000 colleges as Government Degree Colleges and Private Degree Colleges, including 1800 exclusive women's colleges, functioning under these universities and institutions as reported by the UGC in 2012.

Higher education and research are in a constant state of change. Societal demands and expectations of what knowledge should deliver are multiple and expanding. Research in higher education institutions is continuously pushing back the frontiers of discovery. The formative and socializing role of higher education in educating ever-increasing number and often a culturally more diverse group of students, and the far-reaching, at times unpredictable consequences of scientific and intellectual enquiry, place additional responsibility on the entire academic community to deepen ethical self-awareness, to act with integrity and to examine continuously the ethical underpinnings and implications of their actions in the wider community. In this context of rapid change and expansion, members of the academic community – higher education leaders, faculty members, staff and students – must be prepared to face and resolve ethical dilemmas of great complexity. The legitimacy, credibility, support, and autonomy of higher education institutions rest on the quality of their activities and services related to teaching and learning,

research and outreach, as well as the integrity and transparency of their procedures. Yet, many higher education institutions do not have an institutional code of ethics that articulates how, as institutions, they promote academic integrity and prevent academic dishonesty and unethical behaviour in the academic community. All higher education institutions are invited to develop and adopt an Institutional Code of Ethics and to raise awareness in society of the decisive role that they play in promoting ethical values and integrity by their exemplary conduct, in their educational and research functions, and through the discussion of ethical subjects they stimulate.

The growth is very impressive in numbers but quality is far behind the existed standards and requirements. And that's why quality of higher education in India is a matter of great apprehension. To stand at par with the developed countries we have to first meet out the challenges in imparting education especially in higher education.

2. OBJECTIVES OF THE STUDY

- To analyse the reasons for enhancing the quality of higher education.
- To discuss the ways for implementing quality in higher education.
- To discuss the code of ethics for higher education.

3. RESEARCH METHODOLOGY

The study is explorative cum descriptive in nature. It is an empirical research based upon secondary data. The theory is basically developed from secondary sources of information and a thorough study of various academic works in the relevant field has been attempted.

4. CODE OF ETHICS

A code of ethics is a guide of principles designed to help professionals conduct business honestly and with integrity. A code of ethics document may outline the mission and values of the business or organization, how professionals are supposed to approach problems, the ethical principles based on the organization's core values and the standards to which the professional is held. A code of ethics also referred to as an "ethical code," may encompass areas such as business ethics, a code of professional practice and an employee code of conduct.

Ethics are well founded standards that make the actions right and wrong. It helps categorize different values such as integrity discipline and honesty among others and apply them in daily lives. Ethics influences behaviour and allows a person to make the right choices.

Sometimes referred to as a Value Statement, it behaves like the Constitution with general principles to guide behaviour; outlining a set of principles that affect decision-making. For example if an organization is committed to protecting the environment and "being green", the Code of Ethics will state

that there is an expectation for any employee faced with a problem, to choose the most "green" solution. It works on the bases of "treat others as you would like to be treated." When faced with ethical dilemmas or debatable situations, what's articulated in the Code of Ethics can help guide decision making.

Teaching may be regarded as a profession in its own right, and one that demands a great deal of professional expertise. But it also requires its own code of ethics, which may be expressed in a set of ethical principles. These constitute a code of "quality control" for the profession and those who practise it, a response to the trust shown by society at large.

Many professions throughout the ages have set themselves ethical guidelines that express the attitudes and sense of responsibility that members are required to show towards their work, articulating the common values and principles that they should possess with respect to their profession. The teaching profession is based on the concept of teachers as experts who have been assigned specialized tasks by society, which has also prepared them for such tasks by providing them with the necessary high level of education. The profession then demands that the representatives selected to perform these tasks should demonstrate high ethical standards in all situations, even though the tasks may frequently be difficult to define precisely or call for rapid decisions. It is essential for society to be able to rely on persons of this kind to exercise a high level of professional skill.

The sense of responsibility attached to the practising of a profession is based on knowledge and vocational skills on the one hand and on the values and norms that form the foundation of the work on the other. Both are essential, and neither can replace the other. Good ethical principles cannot compensate for poor professional skills, and good professional skills cannot make up for a lack of ethical principles. Thus teachers should feel obliged by their sense of responsibility to pay constant attention to the maintaining of their professional skills, and also to show particular sensitivity in the perception of ethical problems and readiness to observe the highest standards of professional ethics when resolving such situations. Any consideration of the ethics of the teaching profession calls for a distinction to be made between legal and ethical matters. The basic duties and responsibilities of teachers are defined in the relevant legislation and norms, while the content of the teaching is laid down in the curriculum. By contrast, however, the ethics of the profession are not based on compulsion or external supervision but on an internalized concept of the moral obligations attached to the work. One major point of departure for the ethical principles set out here has been the UN's Universal Declaration of Human Rights. The results of a teacher's work are often visible only after a considerable time lag, in that good learning experiences tend to promote lifelong learning. Teachers can play a significant role in both the generation of positive learning experiences and the reinforcement of learners' self-esteem. Thus a teacher's work is

a matter of providing opportunities for upbringing, instruction and learning for the ultimate benefit of person learners. In addition, a teacher is expected to meet up to society's requirements concerning the implementation of the goals of teaching, which means that, on account of changes taking place in society, many teachers are obliged in the course of their work to take care of things for which they cannot bear sole responsibility.

The change in the role of teachers has brought them closer to the learners, but it has also increased their responsibility for the learners' development and has frequently led them into closer cooperation with others who are also responsible for this development. Teachers have a great deal of power and responsibility in matters concerned with the evaluation of learners, for instance, and it is only by fully internalizing the ethical principles involved that they can avoid abusing their position in this respect.

A high standard of professional ethics is one of the most important resources available to teachers, guiding their work and their interactive relations at the professional level. The work of teaching should include consideration and evaluation of the ethics of one's own goals and motives. In this sense the purpose of the present account of a teacher's professional ethics is to codify and promote the sense of what is ethically right that has always been a part of educational work.

5. REASONS FOR CONCERN FOR THE QUALITY OF HIGHER EDUCATION

The quality in higher education is the biggest need of the hour as our country is progressing towards becoming the educational hub of the world. Prime Minister Manmohan Singh (2007) said that "our university system is, in many parts, in a state of disrepair. In almost half the districts in the country, higher education enrolments are abysmally low, almost two-third of our universities and 90 percent of our colleges are rated as below average on quality parameters I am concerned that in many states university appointments, including that of vice-chancellors, have been politicized and have become subject to caste and communal considerations; there are complaints of favouritism and corruption". These words reflect the concerns for the quality of higher education in India. The quality of higher education in most of our universities and colleges requires substantial improvements. The following problems are common enough to be a cause for quality concern in higher education:

- Curriculums, which have remained almost unchanged for decades, have not kept pace with the times.
- Learning and creativity are at reducing in a system of evaluation that places its focus on memory rather than understanding.
- The atmosphere is not favourable to anything beyond the classrooms, for it is caught in a 9.30 to 1.30 syndrome.

- The academic calendar is no longer untouchable for classes or for examinations, as there are slippages in schedules so much so that, at several places, classes in the time table are not held and results are often declared with a time delay of 6 to 12 months.
- The infrastructure is not only inadequate but also on the threshold of collapse.
- The importance attached to research has eroded gradually over time.
- The boundaries between disciplines have become dividing walls that constitute barriers to entry for new disciplines.
- There is little accountability, because there are no rewards for performance and no penalties for non-performance.
- Structures of governance are not responsive to changing times but the system is readily subverted by vested interests.
- Teachers are not playing their roles as per the changing needs and requirements. They are unable to prepare students to meet the demands of the digital, technological, interactive, collaborate changing world around us. Quality of teacher education curriculum also needs a transformation according to the present developments and needs.

It is not possible here to provide a complete analysis of what are the other minor but relevant concern areas related to the quality of our higher education system. But, above mentioned areas need urgent transformation if India wants to move ahead or along with the world higher education systems.

6. IMPLEMENTING QUALITY IN HIGHER EDUCATION

The following points provide a framework or guideline for improving the quality of higher education in India taking into account the various levels and key factors in education:

Both, academic (institutional goals and objectives, curriculum design and review, teaching learning and evaluation, research and publications) and administrative (organization and management, infrastructure facilities, support services, student feedback and counselling and management of financial resources) aspects should be assessed and to be improved to improve the quality of higher education as it will be the first step towards the most needed education.

Examination reforms like semester system, credit system are to be exercised to streamline them in a proper manner. As these are brought up from abroad, we should first of all check its feasibility for our organizational climate. Continuous and Comprehensive Evaluation is to be encouraged. Standardized assessment procedures to strengthen the evaluation system.

Financial Accountability is more important which means that the fund is to be used for the enhancement of the laboratory

and library facilities. Gaps or deficiencies in our educational system are to be bridged to suit our economic, social and cultural requirements. Education is emerging as a service influenced by market operations, and so, it has to meet quality requirements and expectations of stakeholders for its survival. Distance education has a great potential for high productivity and we must take advantage of it in a big way. Curriculum restructuring and innovations and evolvement, conducting training programmes, orientation programmes, refresher courses. Accessibility, accountability and affordability are the major requirements. While the notion of quality was not fully developed, it was recognized that expanding access alone would be insufficient for education to contribute fully to the development of the person and society. Need to raise investment in education: education can be the next big area of economic growth in the country. Despite promises by the policy planners to raise investment in education to 6% of GDP, state and central governments together have spent less than 4% of GDP on education. Anything less now would mean further delays in providing quality higher education. Promotion of higher education with good governance, management, development and planning is very essential. Education should allow the children to reach their fullest potentials in terms of cognitive, emotional and creative capacities. For this appropriate aims must be described at the higher education level. Need to stop commercialization of education: any initiative to reverse the rapidly deteriorating situation will have necessarily to begin with educational institutions. There is, in fact, plenty that can be done even within the existing pattern of education and academic and professional course content to raise the level of awareness and proficiency of the students, provided the temples of learning and scholarship live up to that description. Teachers need to be the drivers of the qualitative change in the higher education.

The educator, believing in the worth and dignity of each human being, recognizes the supreme importance of the pursuit of truth, devotion to excellence, and the nurture of democratic principles. Essential to these goals is the protection of freedom to learn and to teach and the guarantee of equal educational opportunity for all. The educator accepts the responsibility to adhere to the highest ethical standards. The educator recognizes the magnitude of the responsibility inherent in the teaching process. The desire for the respect and confidence of one's colleagues, of students, of parents, and of the members of the community provides the incentive to attain and maintain the highest possible degree of ethical conduct. The Code of Ethics of the Education Profession indicates the aspiration of all educators and provides standards by which to judge conduct. The remedies specified by the NEA and/or its affiliates for the violation of any provision of this Code shall be exclusive and no such provision shall be enforceable in any form other than one specifically designated by the NEA or its affiliates.

Principle I: Commitment to the Student

The educator strives to help each student realize his or her potential as a worthy and effective member of society. The educator therefore works to stimulate the spirit of inquiry, the acquisition of knowledge and understanding, and the thoughtful formulation of worthy goals. In fulfilment of the obligation to the student, the educator—

1. Shall not unreasonably restrain the student from independent action in the pursuit of learning.
2. Shall not unreasonably deny the student access to varying points of view.
3. Shall not deliberately suppress or distort subject matter relevant to the student's progress.
4. Shall make reasonable effort to protect the student from conditions harmful to learning or to health and safety.
5. Shall not intentionally expose the student to embarrassment or disparagement. 438 Code of Ethics of the Education Profession
6. Shall not on the basis of race, colour, creed, sex, national origin, marital status, political or religious beliefs, family, social or cultural background, or sexual orientation, unfairly—
 - a. Exclude any student from participation in any program;
 - b. Deny benefits to any student;
 - c. Grant any advantage to any student.
7. Shall not use professional relationships with students for private advantage.
8. Shall not disclose information about students obtained in the course of professional service unless disclosure serves a compelling professional purpose or is required by law.

Principle II: Commitment to the Profession

The education profession is vested by the public with a trust and responsibility requiring the highest ideals of professional service. In the belief that the quality of the services of the education profession directly influences the nation and its citizens, the educator shall exert every effort to raise professional standards, to promote a climate that encourages the exercise of professional judgment, to achieve conditions that attract persons worthy of the trust to careers in education, and to assist in preventing the practice of the profession by unqualified persons. In fulfilment of the obligation to the profession, the educator—

1. Shall not in an application for a professional position deliberately make a false statement or fail to disclose a material fact related to competency and qualifications.
2. Shall not misrepresent his/her professional qualifications.
3. Shall not assist any entry into the profession of a person known to be unqualified in respect to character, education, or other relevant attribute.

4. Shall not knowingly make a false statement concerning the qualifications of a candidate for a professional position.

5. Shall not assist a non educator in the unauthorized practice of teaching.

6. Shall not disclose information about colleagues obtained in the course of professional service unless disclosure serves a compelling professional purpose or is required by law.

7. Shall not knowingly make false or malicious statements about a colleague.

8. Shall not accept any gratuity, gift, or favour that might impair or appear to influence professional decisions or actions. —Adopted by the 1975 Representative Assembly, amended 2010

7. CODE OF ETHICS FOR HIGHER EDUCATION

Every institution desires to promote the highest standards of ethical practice and professional behaviour in the recruitment and admission of students into institutions of higher education. Acceptance of these standards and a commitment to adhere to and practise them in all aspects of recruitment and admission should be the responsibility for all institutions that act for or represent them as a value based institution. There are some key points which should be seriously focused by such institutions which are as follows:

1) Publications, Marketing and Promotion

Promotional materials used with students shall be clear, accurate, and current, and should emphasize the educational programs and services available. Materials shall not, by commission or omission, provide false, incomplete, or misleading information. Electronic and print versions of promotional materials should:

- be reviewed frequently to ensure they are consistent and that they objectively and truthfully reflect the programs and offerings of the institution.
- provide enough candid and pertinent information that students unfamiliar with practices in higher education in a particular country may make informed academic judgments.
- be sensitive to other cultures.
- make it clear how information can be verified and/or additional information can be obtained.

2) Direct cash payment to third parties on a per-admitted-student basis is not encouraged and institutions are urged to use great caution when using agents for recruiting students. Institutions using third parties in the recruitment process should:

- provide them with a copy of the set code of ethics and instruct them that they shall be bound by the Code.

- monitor the actual practices of third parties to insure they operate in adherence with the set code of ethics.

3) Non-discrimination

Institutions shall not discriminate with regard to race, colour, gender, religion, sexual orientation, age, political opinion, or disability. They will also endeavour to understand and protect the civil and human rights of all persons. Such institutions should:

- maintain a high degree of multicultural awareness and shall be knowledgeable about and adhere to all applicable laws and statutes with respect to non-discrimination.
- Periodically review practices, procedures, and actual results to assure that discrimination has not occurred and is not occurring.

4) Institutional Policies and Programs

Institutions shall establish appropriate policies governing foreign student recruitment, admissions, and support activities, specialized programs and curricula. Institutional policies and programs dealing with students should:

- be documented deal with all aspects of recruitment, admission, financial aid and on-campus support.
- be available for review by volunteers and third-parties acting on behalf of the institution.
- make certain that appropriate information and support services are provided to students in order to ensure a smooth transition to a new educational and cultural environment.

5) Professional Competency and Behaviour

Persons shall be knowledgeable about the institution, its policies and programs, admission requirements, costs and fees, on-campus support, and other relevant factors that will impact a student's decision-making process. This applies to professional staff, faculty, alumni, current students, volunteers and third parties. Institutional representatives shall:

- be educated in all aspects of their institutions or the institutions they represent.
- be provided with accurate and current statistics about the institution.
- be provided with instructions where and how to get additional information or answers to questions they cannot handle.

6) Interaction with students or prospective students

Persons shall act at all times in the best interest of students or prospective students and shall offer advice and counselling in order to provide information in an appropriate manner. As

official representatives of an institution, dealing with students may require counsel on many levels. Representatives should:

- be polite, honest and candid in their interaction with others.
- refrain from offering information outside their area of competence or authority.

7) *Maintain high standards of professional conduct,*

Persons act with integrity and in a manner that will contribute to the positive image of the institution. When travelling abroad or interacting with an international community, representatives should:

- demonstrate awareness, sensitivity to and respect for other educational systems, values and cultures.
- Appropriately distinguish, in both written and/or oral public statements, between personal opinions of their own institutions, or other organisations.

8) Persons who act on behalf of an institution shall represent their credentials, purposes and position or affiliation with the institution clearly and accurately, and shall use their office, title, and professional associations only for the conduct of official business. It is important to:

- Clearly convey the role and responsibility held by anyone in direct contact with a prospective student.
- make no promises or assertions with respect to consideration for admission, placement, or award of financial aid that are not consistent with existing policy or within the authority of the institutional representative.

9) Persons shall conduct themselves with due respect to relevant legal and regulatory factors, and official policies, and shall be sensitive to other educational systems and cultures. Institutional representatives shall:

- behave in a respectful and courteous manner when dealing with all professional colleagues or other member institutions.
- be accompanied by respect and courtesy to others in the profession Professional behaviour includes
- showing respect for the diversity of viewpoints found among colleagues
- refraining from unjustified or unseemly criticism of fellow members, other institutions, and other organisations
- making certain when participating in joint activities that collaborators receive due credit for their contributions

10) Any person or group may file a complaint or grievance against institution for a perceived violation of the Code of the Ethics. The grievance may be filed by telephoning or writing to the concerned authority. Anonymous complaints will not be accepted. Resolving complaints or grievances should:

- be done with the same degree of professionalism required for all other aspects of recruitment and admission.
- respond to the complaint in a timely fashion
- give credence to the opinions or positions taken by the complainant
- treat the complaint as a confidential matter
- resolve to carry the complaint process through to completion

8. CONCLUSION

Thus, it can be concluded at the end that quality is a buzz word in today's world of education. It has become an important ideology of education which helps make education more relevant to the needs of the person and society. Every educational institution must strive to achieve excellence through adopting the highest measures of quality as ongoing basis as fostering quality in higher education is a continuous journey. We all know that education is the key to success as well as a very powerful tool for change. Higher education is the peak time of education of persons which must be qualitatively strong so that it can guarantee to high employability at good and reputed positions. Improvement in quality of higher education will eventually draw more and more students and problem of low enrolment will get solved. For this higher education curriculum must be relevant so that students can directly link with their routine lives and find it useful to study. Teachers must also change their traditional role and be ready for their role as learners first because teachers have a pivotal role to play in the transformation process and the need of the hour is to get things moving and put them in place.

What is needed is a vision of quality that goes far beyond mere conformance to standard; we need a passion for quality and continuous improvement, a quest for improvement that is never ending so that our higher education will always be qualitative and as per the needs.

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Quality Affirmation in Advanced Education: A Survey of Literature

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Abstract: *The point of this paper is to display a general view and a short writing survey of the primary angles identified with quality confirmation in worldwide advanced education. It gives a diagram of accreditation as an instrument to guarantee quality in advanced education, looks at models of QA, and investigates the idea of value. Moreover component to guarantee quality in advanced education, looks at, this paper gives an audit of research on the adequacy of value confirmation rehearses with a specific spotlight on understudy contribution with quality affirmation. In evaluating the idea of value affirmation itself, the creator noted there is a requirement for a typical system for a quality confirmation model; be that as it may, there is no understanding as to a QA definition or a QA model. Moreover, albeit quality is the most extreme noteworthy worry for certifying bodies, accreditation structures are decentralized and complex at both the provincial and universal dimension.. Another test recognized spins around the worries of employees and different partners, for example, the understudies, about the QA procedure. Given that the understudies are at the focal point of advanced education, and put time and cash in the framework, the creator finishes up including them could improve QA forms.*

Keywords: *Quality confirmation, advanced education, accreditation, responsibility, ceaseless improvement, including understudies in quality affirmation.*

1. INTRODUCTION

By 2025, the anticipated worldwide interest for advanced education could achieve 263 million understudies, which is an expansion from somewhat less than 100 million understudies in 2000. This could speak to an expansion of 163 million understudies in 25 years. As the interest for quality instruction increments, there is a developing interest for quality confirmation (QA) for worldwide colleges where there is expanded portability of understudies, workforce programs, and advanced education establishments in worldwide systems. Quality confirmation can be a driver for establishments to accomplish perfection in advanced education. Nonetheless, guaranteeing that the nature of instructive projects meets, neighborhood and global models at the same time has turned into an incredible test in numerous nations. Henceforth, a need

arises for collaboration of value confirmation offices and acknowledgment of value affirmation survey choices.

So as to address this developing need, a typical structure for a quality confirmation model would give steady appraisal of learning choice, substance and instructional method. As appeared in Figure 1, a reasonable model of value confirmation (QA) in advanced education includes a few zones. All things considered, the point of this paper is to look at the writing encompassing quality affirmation in worldwide advanced education. It gives a diagram of accreditation as a system to guarantee quality in advanced education, look at s models of QA, and investigates the idea of value..what's more, this paper gives an audit of research on the adequacy of value affirmation rehearses, with a specific spotlight on understudy inclusion with quality confirmation.



Fig. 1. Quality affirmation in advanced education reasonable model

2. THE CONCEPT OF QUALITY ASSURANCE IN HIGHER EDUCATION

Internationalization in advanced education has brought about "developing interest for responsibility and straightforwardness which thusly prompted a need to build up a quality culture, while tending to the difficulties of globalized advanced education". In a pragmatic sense, quality affirmation audits give outside, outsider autonomous target bits of knowledge. Such audits offer perceptions about accomplice establishments, items, projects, administrations, and procedures, and they give proposals to progress. In any case, the impression of value affirmation is very multi-dimensional and logical and a hole exists in the view between experts in quality confirmation and scholastic staff and understudies". A few key components of value in advanced education incorporate greatness, esteem, consistency, and addressing needs and desires; yet nobody

quality affirmation structure can address all parts of value, so decisions are made about what sorts of value are evaluated.

A typical structure for a quality confirmation model would give reliable evaluation of learning configuration, substance and teaching method. Be that as it may, there are numerous dissimilar approaches to portray quality in instruction. According to Barnett, there are two originations of value in advanced education. The first is implicit originations of significant worth and licensed innovation in the scholarly world. It is the character and nature of the commitments of advanced education's individuals that are at issue as opposed to any results. The other origination of value is the execution origination, in which advanced education is viewed as an item with sources of info and yields. In this view, the nature of advanced education is estimated regarding execution as caught in execution pointers. Another origination of value in advanced education is of personnel understudy collaboration.

The writing contains a wide range of meanings of value confirmation in advanced education. In looking at meanings of value, Schindler, Puls-Elvidge, Welzant, and Crawford noted two principle procedures for detailing definitions in the writing. A few creators "develop an expansive definition that objectives one focal objective or result". Then again, different definitions "distinguish explicit pointers that reflect wanted information sources and yields.

In spite of the fact that Schindler distinguished four wide conceptualizations of value in advanced education, there is no concession to a meaning of value. Presumably, the principle obstruction in building up a typical structure is the manner by which distinctive districts address the issue, since "accreditation and quality affirmation are never again simply national endeavors" and diverse purviews adopt distinctive strategies to quality confirmation promotion program accreditation. For example, while some authorizing bodies in various purviews build up common acknowledgment of their benchmarks through private understandings, there are different cases where such acknowledgment relies upon a legislative or nongovernmental body or office that gives remaining to the certifying offices in their particular locales.

3. ACCREDITATION: QUALITY ASSURANCE OF HIGHER EDUCATION INSTITUTIONS

As indicated by the Council for Higher Education Accreditation, three components impact the quality affirmation slants in global advanced education. In the first place, quality affirmation is more aggressive and thorough than any other time in recent memory. Second, quality affirmation is getting to be perceived locally. Third, there is a requirement for a universal quality affirmation system with affirmation and correspondence crosswise over nations. Program contributions crosswise over global limits expect understudies to join up with different locales as a component of their degree programs. These imaginative ways to deal with advanced education request more noteworthy consciousness of the traits .and

prerequisites of value affirmation associations around the world. Wong communicated the significance for foundations to show esteem and execution and states that advanced education associations apply standards for private industry to survey quality activities.

"Accreditation is an audit of the nature of advanced education establishments and projects". An organization or program is conceded accreditation for gathering least measures of value. One basic accreditation topic is quality affirmation appraisal and nonstop improvement. Authorizing offices have created measures and methodology to manage organizations during the time spent intentional responsibility to consistent improvement by method for application for accreditation. These benchmarks are utilized by audit advisory groups as the reason for judgment and to settle on proposals and choices.

Local accreditation is far reaching and shows that an establishment has accomplished quality models in territories, for example, staff, organization, educational programs, understudy administrations, and in general monetary prosperity. Local accreditors require consistence with quality norms and criteria. In the United States, provincial accreditation is directed and conceded by seven authorizing bodies in six locales. The authorizing bodies are Western Association of Schools and Colleges (WASC), Accrediting Commission for Senior Colleges and Universities, Southern Association of Colleges and Schools (SACS) Commission on Colleges (COC), Middle States Commission on Higher Education (MSCHE), New England Association of Schools and Colleges (NEASC), the Higher Learning Commission (HLC), and the Northwest Commission on Colleges and Universities (NWCCU).

Quality is the most extreme noteworthy worry for all territorial certifying offices in the United States. Proof of the critical accentuation on quality is found in each U.S. provincial authorizing organization's objective explanation.

The WASC Senior Colleges and Universities Commission (WSCUC) is a territorial certifying office. Two of WSCUC's vital objectives underscore quality. One objective states WSCUC will "guarantee the proficiency and adequacy of companion survey as the establishment of value affirmation". Another objective states WSCUC will "make inward research limit that bolsters institutional and Commission endeavors and gives data to the open identified with the nature of advanced education in the locale".

Southern Association of Colleges and Schools Commission on Colleges' statement of purpose centers around quality: "The mission of the Southern Association of Colleges and Schools Commission on Colleges is to guarantee the instructive quality and improve the viability of its part organization."

The Mid-Atlantic Region Commission on Higher Education states in its mission, "the Middle States Commission on Higher Education is an intentional, non-legislative, enrollment affiliation that is committed to quality confirmation and

improvement through accreditation by means of friend assessment." NEASC Commission on Institutions of Higher Education's (CIHE) mission underwrites quality in training: through its procedure evaluation, the Commission empowers and aids the improvement, adequacy and perfection of partnered instructive organizations."

HLC has issued the accompanying proclamation: "The central government has a particular enthusiasm for the job of accreditation in guaranteeing quality in advanced education for the understudies who profit by administrative budgetary and programs. As a perceived guard organization by the U.S. Division of Education (USDE), HLC, 'the Commission consents to satisfy explicit governmentally characterized obligations inside the accreditation forms."

The Northwest Commission on Colleges and Universities is an "autonomous, non-benefit enrollment association perceived by the U.S. Branch of Education as the territorial expert on Educational quality and institutional adequacy of advanced education foundations in the seven-state Northwest area."

Notwithstanding how focal quality affirmation is among these certifying bodies, "the U.S. accreditation structure is decentralized and complex, reflecting the decentralization and intricacy of American advanced education. Perceiving global investigation projects and projects offered by nondomestic establishments or suppliers includes another dimension of unpredictability. To be sure, "quality affirmation has turned into a worldwide undertaking and a key part of advanced education strategies in almost every nation, particularly given that understudies and researchers move crosswise over national and local limits at remarkable rates.

4. SUCCESS AND CHALLENGES IN QA REVIEW PRACTICES

In the previous 10 years, uplifted intrigue has been committed towards quality affirmation in global advanced education. Generally, quality affirmation organizations have not concentrated on surveying imported or sent out scholarly projects, with certain desires. Presently, notwithstanding, an expansion in cross-fringe instruction has presented another test in the field of value affirmation. The QA models are instances of QA frameworks, yet the advanced education part has blended perspectives on the fittingness of value guidelines. For instance, there is a scope of assessments about the estimation of universal criteria for quality affirmation of advanced education on the grounds that such institutionalization may endanger the respectability of the nations' advanced education frameworks and may not really improve the nature of the scholastic projects.

One test of value confirmation surveys is employees and other partners' worries about the QA procedure. Altman, Schwegler, and Bunkowski (2014) explored workforce convictions and their arrangements to partake in the friend quality confirmation surveys utilizing the Quality Matters Rubric. The specialists utilize a subjective way to deal with look at employees' view of

finishing the QA peer survey. In spite of the fact that personnel were incredulous before taking an interest in the QA procedure, the outcomes demonstrate that a large number of the worries and reactions of the friend survey process did not approve before suspicions. The examination analyzed workforce convictions, rather than bits of gossip, to distinguish explicit staff worries that could be legitimately tended to. The outcomes, however restricted because of little example measure, expressed online course quality is a significant objective, and, with designs for development, a set up standard requires logical inquiry for suitable and improved utilization of the standard. This examination can be utilized to control changes in QA forms and to build cooperation in QA audits with the objective of improving the online course structure quality with a more noteworthy number of establishments.

5. INVOLVING STUDENTS IN QA PROCESSES

Including understudies in QA forms is a significant point and instructive pioneers are thinking about how best to incorporate understudies in their QA frameworks. Understudy contribution in assessing and upgrading the nature of their advanced education organization is completed however explicit exercises, for example, reacting to center gathering meetings and surveys, partaking in QA related working gatherings, and including themselves in QA forms.

The nature of instructive administrations given by a college is a critical part of key plans in the understudy focused training setting. Understudies' assessment of the scholarly projects is a noteworthy evaluation instrument utilized for reproducing quality upgrade in a college.

Acquainting understudies with quality confirmation forms and enabling them to take an interest in outer assessment boards give great encounters to understudies. In the job of understudy delegate, the understudy can see the circumstance from the student's point of view, which others will be unable to consider. Moreover, the understudies are partners in advanced education, with time and cash interests in the framework. In that capacity, they an exceptional enthusiasm for the nature of the scholarly program.

Regardless of the difficulties, the advantages for including understudies in QA procedures can be assembled into two classifications: advantage to the understudy and advantage to the QA procedure. Advantages for thr understudy incorporate improvement of correspondence, logical thinking, and initiative aptitudes. The Quality Assurance Agency (QAA) in the United Kingdom reports that understudy cooperation is "an open door for understudies to build up their capacity to dissect the nature of their projects, making a feeling of responsibility for projects."

Understudies have a multifaceted comprehension of value in advanced education. Another advantage of including understudies in quality confirmation activities is straightforwardness, which means all members see the results and consequent changes. Understudy support in QA exercises

impacts the nature of advanced education. Counting understudies is key in the QA procedure since they give a significant focal point to quality confirmation in advanced education.

6. CONCLUSION

This paper has presented an overview and a brief literature review of the main aspects related to quality assurance in higher education. In reviewing the concept of quality assurance itself, it can be said there is a need for a common framework for a quality assurance model, however, there is no agreement as to a QA definition or a QA model. Furthermore, although quality is the utmost significant concern for accrediting bodies, accreditation structures are decentralized and complex at both the regional and international level. The difficulties and skepticism in choosing one QA model or another can be seen in the various types of services and the quality frameworks the agencies use, which vary from one QA organization to another and from one jurisdiction to another. Another challenge revolves around the concerns of faculty members and other stakeholders, such as students, about the QA process. Given that students are at the center of higher education, and invest time and money in the system, involving them could improve QA processes.

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Government Initiatives for Quality Assurance in Agricultural Sector

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Abstract: *Agricultural trade liberalization in developing states has been a contentious issue-area despite the spread of democracy, especially in a country like India, whose agricultural sector accounts to employment to 50% of the country's workforce. Hence, pitfalls in the agricultural sector can severely affect the country's growth. In order to help the developing country, rise and to safeguard the interests of the country's food providers, Government of India takes many initiatives. This study gives the analysis of the schemes provided by the Government of India and the degree of impact it has on the farmers. The steps taken by government had positives as well as negative results and the same, is being assessed under this report. For example, The Electronic National Agriculture Market (E-NAM) was launched which helped the farmers acquiring knowledge about their sector and contributed in some positive growth but slowly and gradually it was found while conducting the study that the farmers faced difficulties in accessing the portal since there were broadband and connectivity issues in their locality. Similarly, other such observations were made while analyzing the challenges faced by the farmers and various shortfalls in the implementation of such schemes.*

Keywords: *E-NAM, Pradhan Mantri Fasal Bima Yojna*

1. INTRODUCTION

Agricultural productivity depends on several factors. These embrace the supply and quality of various inputs used in agriculture like quality of soil, irrigation facilities, seeds and fertilizers, access to banks for agricultural loans and crop insurance, assurance of remunerative prices for agricultural manufacture, and storage facility and connectivity to market among others.

While the heart goes out to the drought-stricken farmers' plight, we need to do more than simply look to band-aid solutions and throwing money at a problem, hoping it will go away. It does not make sense for farmers to simply use donated funds to replace their dead life stock and buy more feed. A quick injection of cash, although warranted, is not a long-term solution. Loan waivers affect only bank loans, leaving aside the non-banking finance companies (NBFCs) that also lend in rural areas for buying farming equipment.

Also, the price mechanism is directly or indirectly, controlled by government officials, who for their own corrupt benefit, set the prices of most of the commodities low and then sell it in the markets at high margins. On top of it, the unfavourable climatic conditions worsen the productivity levels, like the recent article on how the farmers threw tomatoes on roads gained limelight. So, it will be unachievable and farfetched to say that climatic conditions can be modified or changed for the betterment, but the prices can be modified and removal of thekedars, zamindars and various such agents could help the farmers, communicating to the market directly. Though the data collected is not complete since it has a wide scope but it is highly reliable and accurate. Also, the study aims to suggest ways for bringing improvements in rural farming activities.

2. OBJECTIVES OF THE STUDY

The focus of this paper is on the farming sector which forms a major part of the agriculture. The following objectives are the key areas, the research aims to study.

- To understand the challenges faced by the farmers in rural areas.
- To analyse schemes introduced by the government and suggest ways for upliftment of agricultural sector and farming activities.

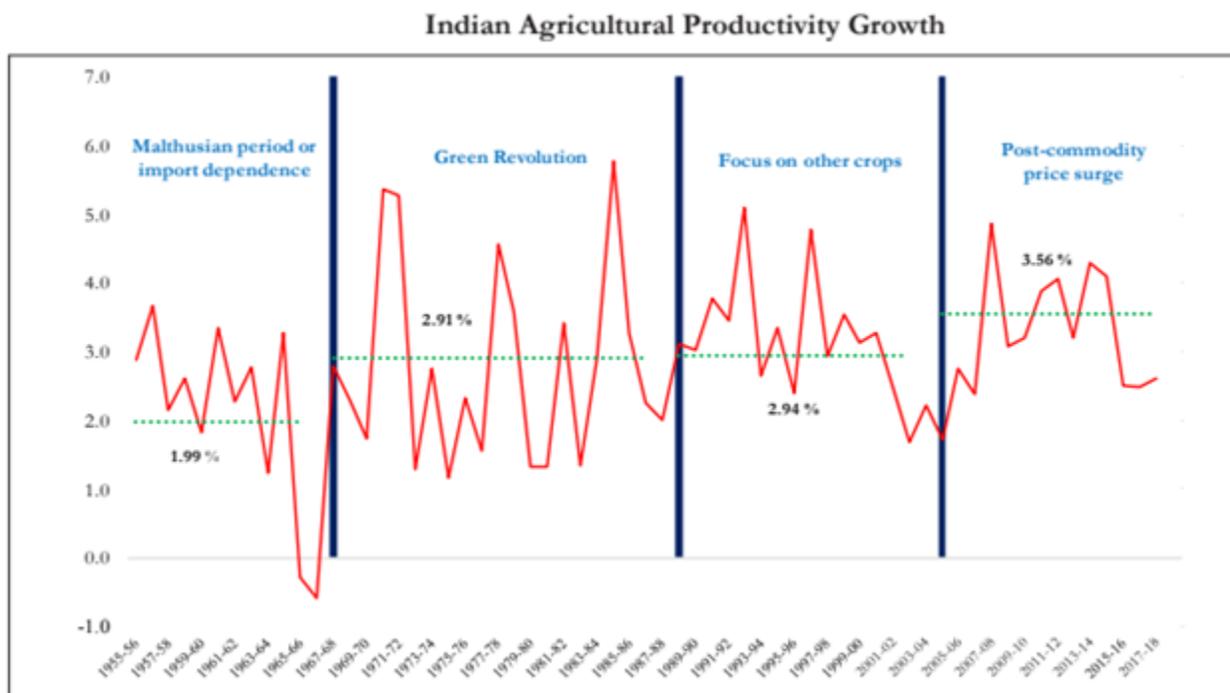
3. MAJOR ISSUES RELATED TO AGRICULTURE SECTOR

Indian agriculture is plagued by several problems, some are natural and some are manmade. Some of the major challenges faced by farmers today are highlighted below.

- Less diversification of occupation is there and hence many people are dependent upon small pieces of land, resulting in the distribution of income.
- Lack of financial autonomy of farmers, leading to a debt trap.
- Less investment by the private sector in rural areas, it is less profit incurring sector.
- Lack of infrastructure facilities in term of health, education, road transportation, etc.
- Resources like water (with groundwater depleting day by day), irrigation facilities, better yielding seeds, etc are

- scarcely available in the rural areas, contributing to decrease in the level of production and increase in the cost of production.
- Consolidation of land holdings due to the high rate of growth of population.
- Lack of development of human resources including – education, skill development, health, and sanitation.

- The changing unfavorable climate, not supporting agriculture, reduces productivity and increases the cost.
- Unfair prices also worsen the condition of farmers and take place because of the huge involvement of middlemen and there is lack of direct sales channels.



Source: Survey Calculations; numbers represent average growth for the relevant period in percent.

Growth rates for richer countries have been consistently greater than for developing countries, and India being a developing country, strives hard to raise its growth rate (as seen in the above fig.). Indian agricultural productivity growth has been stagnant, averaging roughly 3 percent over the last 30 years. Indian agriculture is vulnerable to temperature increase and still heavily dependent on precipitation. Water availability can make a pronounced difference to agricultural output and standard of living. Areas fed by canals fare better than those that rely on rains. Unfortunately, such irrigated areas account for only 40% of India's net sown area. The remaining 60%, which accounts for a substantial part of agricultural output, is rain-dependent.

The analysis there shows that if climate change raises temperatures and the variability of rainfall, farmer revenues could decline by up to 20 percent to 25 percent in non-irrigated areas. For a developing country like India, which has greater than average gdp of the world in agricultural sector (6.4%), agricultural productivity is critical not just for feeding people but for ensuring human capital accumulation in those who move from agriculture to the modern sectors. Agriculture

could yet come back to haunt the structural transformation fortunes of the late convergence.

4. MEASURES TAKEN BY THE GOVERNMENT

The State Governments are primarily responsible for the development of the agriculture sector. However, the Government of India supplements the hard work of the States through suitable policy measures and budgetary support. Various programmes and schemes are being introduced time to time for the enlargement and development of agriculture sector, with the flexibility to State Governments to formulate and implement appropriate projects to suit their specific requirements, which will eventually help in achieving the ultimate goal. It was difficult to evaluate all the schemes introduced by the government for the farming sector, therefore two of the recently introduced and popular schemes are examined in this study. Listed below are the two initiatives set up by the government.

Launch of Pradhan Mantri Fasal Bima Yojana

To resolve the problem of volatile nature of farming and stop farmer suicides in the country, the Government launched PM

Fasal Bima Yojana in early 2016. Pradhan Mantri Fasal Bima Yojana is a crop insurance policy with comfortable premium rates on the principal sum insured for farmers. PMFBY for farmers is a great alternative: For every 1 hectare and a sum insured of Rs. 35, 000, insurance companies charge a premium of Rs. 4000. Out of this Rs. 3, 300 is paid by the government (center plus state), and only Rs. 700 is paid by farmers.

Table 1, briefs the performance of crop insurance scheme for the financial year 2016-17 and 2017-18. The comparative analysis of both the years helps to comprehend whether the respective crop insurance scheme is a boon for the farmers in rural India.

TABLE 1

	2016-17	2017-18	Percentage change (Base:17-18)
Farmers Enrolled	55218614 (5.52 Cr)	50076399 (5.01 Cr)	10.27% decrease
Area Coverage (Ha)	55421861 (5.54 Cr Ha)	48929860 (4.89 Cr Ha)	13.27% decrease
Sum Insured (in Crores.)	190158.95	190381.44	0.12% increase
Premiums collected (in crores)	20513.67	23206.18	11.6% increase
Average premium per farmer paid (in Rs.)	3714.99	4634	20% increase

Source: Centre for Management in Agriculture (CMA) – IIM(A)

The above table focuses on the comparative analysis of the crop insurance scheme's performance in two consecutive years. The analysis of the table clearly shows that the overall performance of the PM Fasal Bima Yojna has declined for the year 2017-18, when compared with the year 2016-17. The data shows that there has been more than 10% decrease in the farmers enrolled and area covered in the scheme, that is, from 5.52 Cr enrolments in 16-17 to 5.01 Cr enrolments in 17-18, and from 5.54 Cr Hectare area covered to only 4.89 Cr Hectare area covered in 17-18.

This gives us a conclusion that farmers have less belief in the crop insurance scheme introduced by the government of India. Another reason for less enrolment factor is lack of awareness among the rural farmers regarding the benefits and reliability of the scheme. The area coverage decrease also throws light on the inability of the government to enforce trust within the poor farmers and the need for proper implementation of the scheme.

One of the positive aspects of the agriculture insurance is the increase in sum insured, which is again a marginal increase of only 0.12% from 16-17 to 17-18. This when compared to the 11.6% increase in the collection of premiums for the private insurance companies, presents a really negative reflection on the matter. Where the private players are receiving huge amounts as premiums from poor farmers, the sum insured promised in case of difficulties is relatively small. This shows the unreasonable approach of the crop insurance scheme towards people dependent on agriculture.

Another unenthusiastic outcome of the analysis is rise in the average premium paid per farmer. The data shows a total increase of 20% in the premiums paid by farmers every year. We cannot ignore the fact that rise in premiums could be due to more sum insured or insurance cover, but this appears to be a misconception in the present case, since the marginal

increase of 0.12% in total sum insured, is when compared to vast increase of 20% in the premiums collected gives negative indication of the satisfaction and support received by the farmers from the PM Fasal Bima Yojna.

Massive profits for insurance companies. CSE's analysis indicates that during kharif 2016, companies made close to Rs 10, 000 crore as 'gross profits'. PMFBY remains a scheme for loanee farmers – farmers who take loans from banks are mandatorily required to take insurance. The percentage of non-loanee farmers availing insurance remained less than 5 per cent during kharif 2016 and 2015. Like previous crop insurance schemes, PMFBY fails to cover sharecropper and tenant farmers.

The two biggest problems with the design of these schemes is that, first, even extremely poor farmers are expected to pay the premium. Second, if the farmer gets trapped in a cycle of debt and defaults on his agricultural loan, to which his crop insurance scheme is linked, his policy becomes inoperative. Thousands of farmers who have opened insurance plans through the Kisan Credit Card (KCC) scheme for instance find they cannot claim insurance because of unpaid dues on their bank loan. The government needs to legislate on the subject, making insurance cover compulsory. The government should pay the premium for small farmers. Holding agricultural as well as bank officials accountable for process pertaining to crop insurance should also be a part of the legislation.

National Agriculture Market (e-NAM):

The Electronic National Agricultural Market (e-NAM) system was introduced in July 2015 and was made operational by appointing the Small Farmers' Agribusiness Consortium (SFAC) as the leading implementing agency to operate and maintain the e-NAM platform. The National Agriculture

Market scheme (e-NAM) envisages initiation of e-marketing platform at national level and to support creation of infrastructure to enable e-marketing in 585 regulated markets across the country by March 2018. This innovative market process is revolutionizing agri markets by ensuring better price discovery, bringing in transparency and competition to enable farmers to get improved remuneration for their produce moving towards ‘One Nation One Market’. A target of integrating 400 markets to e-NAM had been set for March, 2017 against which 455 markets in 13 States have been on boarded as on 30.6.2017. As on 2.7.2017, 47.95 lakh farmers and 91, 500 traders have registered on e-NAM portal.

The broader objectives as proposed by MoA&FW for e-NAM include –

- i) Transparent sale transactions and price discovery,
- ii) Liberal licensing of traders / buyers and commission agents by state authorities,

- iii) Harmonisation of quality standards of agricultural produce and provision for assaying,
- iv) Single point levy of market fees,
- v) Provision of scientific techniques such as soil testing laboratories, etc.

The system is defined as a platform to create a national network of physical mandis which can be accessed online by different stakeholders. There are concerns of some stakeholders that the APMC mandis may become unviable if e-NAM is promoted, However, these apprehensions appear misplaced at this stage as local traders can also participate in bidding along with access to markets in other states. The farmers will have increased choices to sell their produce. There are many existing loopholes in physical and online setup of current marketing system and also technological issues. The system, once operational fully and effectively, is expected to lower intermediation costs and wastage by reducing market fragmentation and thereby, lower price for the final consumer.

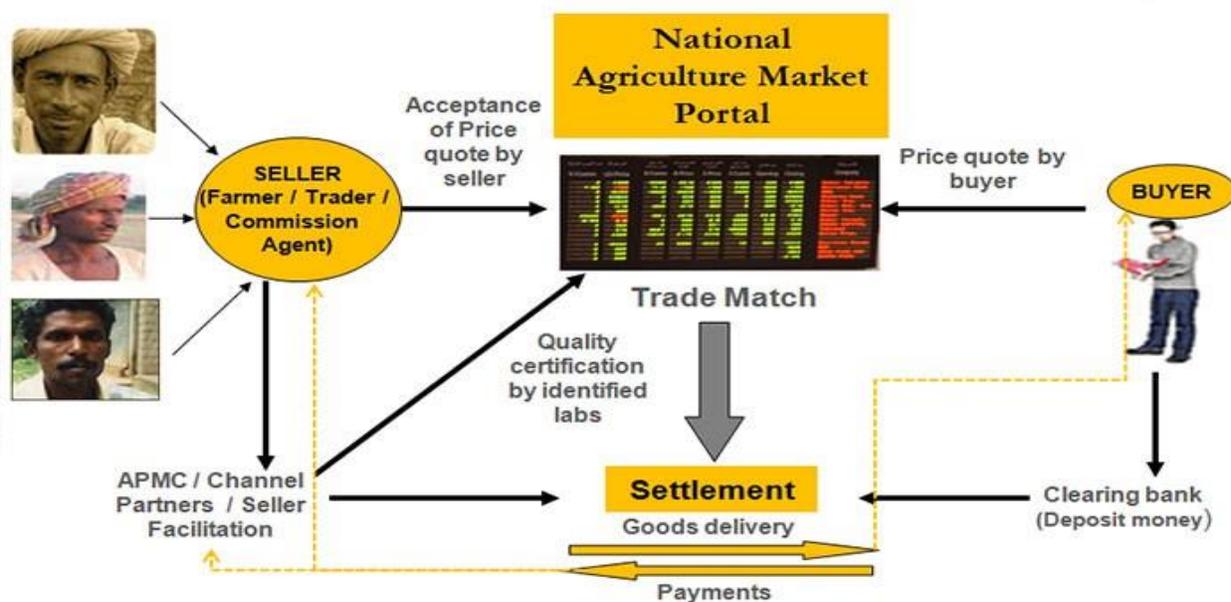


Fig. A working model of e-NAM

Source: FarmGuide — eNAM working model

The eNAM portal, launched by the Centre in April 2016, has 45.4 lakh farmers and 417 mandis across the country registered with it. This number is disappointing, given that there are more than 13 crore farmers in India. e-NAM, which was envisioned as a unified national electronics agriculture market, faces multiple hurdles. As the Centre looks to widen the electronic trading platform of e-NAM in more states, a high-powered panel of experts on integrating commodity spot and futures markets has found that data of trading done manually is being fed into the electronic platform after the auction is completed in many mandis (APMCs). That apart, the panel found that

many agricultural produce market committees (APMCs) do not have operational assaying labs for grading commodities prior to putting them up for online auction. The panel also said that in order to operate the e-NAM at its full potential and to pass on the intended benefits to farmers, the government should ensure that each APMC must have appropriate storage facilities to provide cost-effective warehousing to farmers so as to avert distress sales. The progress under eNAM is also slow. State agricultural departments have been finding it difficult to convince all stakeholders — farmers, traders and commission agents — to move to the online platform. While traders fear

the taxman, farmers fear lower prices, if the produce is assayed. Lack of technical expertise at the State Agricultural Departments has also delayed the setting up of grading/assaying facilities, say officials from the mandis.

e-NAM has the potential to transform Indian agriculture from traditional to an entrepreneurial and a profit making venture. But this will only be possible with supplementary additions in infrastructure, easy credit disbursal and vigilant inspection and implementation.

Since independence government has introduced various schemes for the development of the farming sector. Pradhan Mantri Fasal Bima Yojna and e-NAM are few of the popular schemes initiated by the government of India, which were explored in this research.

5. FINDINGS AND SUGGESTIONS

This section of the report underlines the findings of the research and the suggestions based on those findings. The major findings and suggestions are presented in the subsequent segments.

- **Issues unsolved:** since the execution of schemes is poor and are less focused upon therefore the steps taken are infeasible, causing failures. Also, there is lack of proper responsibility and reporting of actual accounting figures, leading to severity of the situation. Lack of proper implementation also acts as a hindrance to reach the goal and creates a barrier in the upliftment of agricultural sector. There is need for proper planning and implementation from the government.
- **Lack of access to finance and entrepreneurial mindset:** When you are an entrepreneur, you think of innovations, but one needs to have resources to implement it and the amount allocated is not reaching to the needful people and also the amount assigned do not suffice the need of farmers. Farmers should increasingly become entrepreneurs to find home-grown solutions to their problems rather than relying on the government.
- **Lack of awareness among rural beneficiaries:** the education system is not at all sound in the rural and backward areas which cause lack of awareness and even though there is presence of plenty of schemes but they are unable to use them. Government should take steps to introduce and present various schemes to the farmers.
- **Lack of sense of motivation and security among Indian farmers:** While the agriculture sector's contribution to GDP has decreased over the past few decades, the contribution of sectors such as manufacturing (employing 10.5% of the population) and services (employing 24.4% of the population) has increased. Since the condition is getting worse day by day, more and more farmers are committing

suicides due to debt trap and other reasons; farmers have lost motivation to carry out agricultural activities and moving into other sectors. Government should fix higher targets for the agriculture sector, since majority of the population reside in rural and is dependent on agriculture.

- **Low productivity and Quality:** The long term solution to the problem lies in improving productivity in agriculture through improvement in irrigation, mechanization, availability of quality seeds, fertilizers, pesticides, crop diversification towards high-value crops and solving ethical dilemma related to GM crops.
- **Infrastructure and technology:** Infrastructure in agriculture, including cold storages, should be improved. China had progressed in agriculture by using technology and creating a food processing industry. India needs to do likewise. We need seed technology. Not much work has been done here. We require drought-resistant seeds.
- **Other suggestions:** We need to undertake agriculture market reforms to ensure that farmers get reasonable prices for their produce, this includes amendment to state level APMC acts. We need to increase the coverage of PM fasal bima yojana so that farmers are guarded against the risk of crop failure. There is a need for diversification, to encourage non farm income avenues like animal husbandry. Corporate agriculture and organic farming should be promoted among farmers.

6. CONCLUSION

In the era of industrialization, agriculture is being neglected. The agriculture sector is of vital importance for India, a country whose majority population is dependent on agriculture. Pitfalls in the agriculture sector can severely affect the country's growth. In order to sustain, diversify and realize the potential of agriculture sector, it is necessary to develop skilled human resources and maintain a continuous focus on the agricultural activities.

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Enhancement of Quality in Higher Education

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Abstract: *In recent years incredible growth has been witnessed in the establishment of educational institutions in India. Quality in higher education plays an important role in a nation's development. Education means learn things whereas quality education means learn ethical things. To prepare the students as per the requirement of 21st century requires to focus on the higher education quality. In the era of globalisation and liberalisation, it is very important to work and enhance the higher education quality in order to remain competitive. The higher education quality throws a great challenge for the education system in India. The researcher through a rigorous literature review on higher education, importance of quality in higher education, the impact of quality in higher education on the learner, has proposed a relevant importance of teaching methods/approaches, Teachers and students for maintaining and increasing the quality of higher education.*

Keywords: *Quality, Higher Education, Teaching Approach, Teacher and Learner*

1. INTRODUCTION

"We want that education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one's feet"

By Swami Vivekananda

Quality in higher education is a continuous process. Quality means executing things efficiently and effectively. Education means learning things, when quality is associated with education, it means learn ethical things and absorb it well because learning ethical things half-heartedly is of no use and it could be dangerous. In today's competitive environment, the biggest challenge is to enhance the quality in higher education. In the era of globalisation when there is a free mobility of human resource across the national boundaries it is very important to focus on the quality of higher education. This challenge can be met by making developing human resources of the nation in appropriate and effective manner.

Objectives of the Study

1. To understand the importance of Quality in Higher education.
2. To study the key components for enhancing the quality in higher education.
3. To study the ways through which the quality in higher education can be enhanced and maintained in higher education.

2. KEY COMPONENTS OF QUALITY IN HIGHER EDUCATION

Higher education plays an important role in the development of a nation as a whole. It is the responsibility of the higher education system to ensure that the human resource skills are developed well and are at par with the best of the world. In order to enhance the quality in higher education, teaching should be based on principles. Quality education must aim at improving the personal growth and boost the confidence of the student as he/she may adapt to the changing environment.

Quality in higher education is a two way process. The primarily role in quality education is played by mentor (Teachers) who shapes the nation's future and secondary role is fulfilled by the learner (students). Quality teaching is not completed until unless both the opponents fulfil their responsibility. The mentor should ensure that the teaching process is effective, efficient and at par with the latest approach of teachings and on the other hand learner should imbibe these learning and try to implement those practically through simulations.

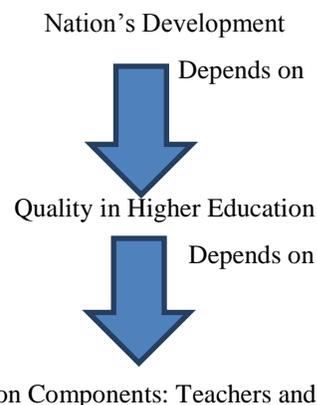


Fig1: Importance of Quality in Higher Education

3. WAYS TO ENHANCE AND MAINTAIN QUALITY IN HIGHER EDUCATION

The present study after rigorously reviewing the literature has drawn that there few ways through which quality in higher education can be improved and maintained.

1. *Aptitude Skills*

Aptitude plays an important role in the employment domain. Aptitude enlargement is an imperative aspect of quality education. Due to international economy integration, there is a

dire need to develop human resource proficiency skills. For achieving this goal, mentors should focus on using innovative and creative teaching approaches like

- Guest Lectures:
- Industrial Visits
- Role Plays
- Simulation Activities
- Case studies

All these efforts help in fostering competency skills in the students and making them at par with the best of the world.

2. Quality Education

Education has no relevance until unless it imparts desirable principles amongst the learners. Our nation is a diverse nation consisting of various beliefs, thoughts, religions, customs and traditions. It is very crucial to inculcate appropriate principles like genuineness and honesty. In early schooling, appropriate principles are imparted but the reality is that as we grow we tend to forget the principles learnt at early age, therefore it is very much required to re-emphasise these principles at higher education level in order to maintain the education quality. This principle based teaching should be recapitulated through appropriate methods like

- Academic Curriculums: Moral Science
- Case study: To eradicate fraudulent behaviours and discussing its impact on the nation's development and humankind.

Mentors should keep in mind that the lectures should be delivered in such a way that it imparts wisdom to the learners and not just skills.

3. Self-esteem

For enhancing the quality of education mentors should act as a motivational force and boost the morale and increase the self-esteem.

4. Devotion by mentor and mentee

“A teacher can never truly teach unless he is still learning himself” by Rabindranath Tagore

For the quality teaching there should be devotion from both the end. This requires sincerity from the mentor and commitment from the learner. Both the parties have to play their role with sincere efforts otherwise this process would be futile. Keep learning new things because if you stop learning you will decay and die. Therefore, for quality teaching the mentor should have this kind of orientation and keep updating himself/herself then only through coaching and understudy methods learners would develop this kind of attitude.

5. Research Domain

Research is a journey which starts from the known fact and ends at the unknown fact. The quality education demands

research work. Mentors should encourage learners to involve in research work as it provides more comprehensive picture of the current problem and learner would try to provide solution from its cognitive learning. Mentors should also contribute in the research field by undertaking the present problems of the nation. Such kind of attitude by teachers and learners would help in nation's development and also in improvising the quality of higher education.

6. Teaching Pedagogy

For enhancing the quality education mentor should evaluate and continuously improvise the teaching methods keeping in mind the present competitive environment. The objective of quality education is to produce competent human resource who can contribute in nation's growth and development. The teaching pedagogy adopted by mentor should help in broadening the imaginative horizons of the learners.

7. Academic development

Mentors are the imperative component of education system. Mentors academic advancement is crucial and mandatory for the fruitfulness of quality education system. The need of the hour is to maintain the quality education. The mentor is an important key between quality education and learner. By continuously upgrading and developing his/her academic domain, he/she would generate knowledge and wisdom amongst the learners and would help them to inculcate high professional competency.

4. CONCLUSION

Imparting knowledge without values would be of no use in fact it would be wastage of nation's human resource. For enhancing the quality of higher education there should be active participation from mentor and learner's side in teaching and learning process. Efforts from both the parties should be channelized in such a way the education becomes valuable which in turn would enhance the quality of education.

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Degrading Research Quality in Higher Education in India

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Abstract: *The only benchmark for judging the quality of a university is the quality of its research. And our universities are woefully short when it comes to research. A UGC decision in 2010 making research compulsory for teachers to rise up the ladder prompted some to pay dubious publications to feature their work. In this scenario, fake journals have created their own market and are flourishing at high pace resulting in degradation of the quality of research in India.*

Keywords: *Faculty, Fake journals, Higher education, Quality, Research*

1. INTRODUCTION

A few years ago, the University Grants Commission (UGC) had sought a list of journals from various universities and institutes to be included in a master list of 'approved' journals. Each journal that appeared on the list was recommended by academicians and was filtered through collective committees. The appearance of fake journals in this list indicates the failure of academic institutions to check these journals even when there was a chance. Many people were fully aware of the presence of fake journals on the list and either did nothing about it or were completely helpless in the given system. Mr. Prakash Javadekar, the Union minister for human resource development (MHRD) proposed to repeat the process to ensure the reliability of the list made by UGC but it is imperative to think whether it will make any difference (Raniwala and Raniwala, 2018).

2. ANALYZING THE SITUATION

There is huge lack of faculty in university spaces. The ad-hoc/contractual teachers work on a paltry salary without any job guarantee. They have been entrusted the same responsibilities as their permanent counterparts. But they are underpaid and many complain they are undervalued (Pushkar, 2018). In order to compete with the university rankings and grading systems which use research output as a key measure of ranking universities, universities and colleges pressurize their faculty to publish more. It is an important factor which is affecting the quality of research in India negatively.

The introduction of the academic performance indicators (API) pressurised academicians to increase their publications to meet the demands of the API. Instead of working towards obtaining

the score, we are ready to circumvent the process with fake publications without any qualms. (Raniwala and Raniwala, 2018) observe that the real reasons for willingness to cheat in order to publish and score a promotion lie more in the culture of our times. Both the researchers examine that even when we are not participating in the fraud as individuals, we do not want to be the keeper of other persons' morals, even at the cost of academics. We do not want to be whistle blowers; we do not want to spoil our relationships with our colleagues. In the process of not shouldering our responsibility, we elevated the crime from being individual to institutional. The proliferation of fake journals is a symptom. The root of the problem is the loss of direction of our collective moral compass. Promoting plagiarisers in the academic hierarchy encourages others to take the same path. Peer pressure is essential to stem this rot and for that, it is essential to isolate and shame the plagiarizers in the community (Raniwala and Raniwala, 2018).

3. MARKET OF FAKE JOURNALS AND PLAGIARISM

It is not wrong to say that fake journals and plagiarism in academics go hand-in-hand. The lack of peer review and a complete absence of quality checking provide a safe channel to publish plagiarized articles. It is therefore no coincidence that along with fake journals, almost all academic fields have also seen an epidemic of plagiarism. The menace has grown to an embarrassing extent, with reported instances of plagiarism in the most respected institutions, forcing the UGC to take up the plagiarism issue and formulate laws to quantify crime and specify penalties for defaulters. Earlier, in academic circles, plagiarism was such a heinous crime that moral discouragement alone kept this menace in check, in the absence of any explicit laws. But now, the scenario is changing. In the corridors of every university, we have heard people publishing articles in very short time spans, sometimes within a day. By no stretch of imagination could that be a result of original research and/or thought. Raniwala and Raniwala (2018) note that the fact that a large number of plagiarised articles are published in these journals is a testimony to our depravity as researchers. They add that "we academicians engage in teaching which means disseminating known knowledge and researching which means creating and recreating new knowledge. The knowledge created through research is mostly disseminated through publication in

appropriate forums e.g. *journals*. Those who create knowledge are generally assumed to follow certain moral guidelines, at times explicitly defined by various institutions. The success of fake journals shows that we have failed somewhere” (Raniwala and Raniwala, 2018). These journals provide a space to those who wanted easy credit and a large number of us wanted this easy credit because we were not suitable for the academic profession and were there for the job. In essence, these journals could not have succeeded without an active participation of some of us. The Government wants to set free the best of our universities. The only benchmark for judging the quality of a university is the quality of its research. And our universities are woefully short when it comes to research. Our prized management institutes are no exception. The outcome of this mediocrity is that our children have to go abroad for education (Ramaswamy, 2017).

4. ACTION AGAINST FRAUD RESEARCHES AND PUBLICATIONS

Aiyer (2018) quotes that in August 2015, Springer retracted 64 published articles for false peer reviews. In many countries around the world, including India, even the most obvious and egregious kind of research fraud is often ignored and/or not penalised even when the culprits are exposed, especially when it involves those in office. It does not help that in these countries, governments tend to maintain tight control over the higher education sector and dictate policies to academic institutions. For example, initiatives to check research fraud, such as preparing a master list of legit journals, come from the government. These initiatives usually fall short either because they are not eventually implemented or because, as in this case, techniques of research fraud have advanced further making older measures dated and irrelevant. In India, for measuring research, the National Assessment and Accreditation Council (NAAC) looks at criteria like faculty publications, facilities, activities, resource mobilization, consultancy, extension

activities and collaboration. NAAC has made an extensive list of criteria but the points on quality seem inadequate (Aiyer, 2018).

5. CONCLUSION

Ideally, it is not the only duty of teachers to impart just the knowledge regarding the subject but also the ability to distinguish right from wrong. . By continuing to publish in such journals, we are transmitting the idea to our students that it is okay to take short-cuts in order to meet our goals, without the rigour of following the correct path. By extension, we are conveying to the student that it is okay to take short-cuts in life for small personal benefits without going through the mill.

We may reduce the quantity of research, but might improve its quality!

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Gender Disparity in Higher Education: An Obstacle in Quality Assurance

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Abstract: *Recent years have seen a key global change in higher education. Higher education makes a vital contribution to sustainable development through the generation and dissemination of*

Knowledge to achieve quality assurance in higher education there are various hurdle. Among them gender diversity is one of them. It is a women who shaped the nation by her active participation in every field of life. Even It is widely accepted by the global community that participation of females is critical to achieve a sustained economic and social development. More and more corporates are making a conscious effort to increase gender diversity in their organizations. Education of girls is vital not only on grounds of social justice but also because it accelerates social transformation. Promotion of gender equality in education is essential for human resource are enrolling and graduating at higher rates. Even government of India also doing great efforts in this respect. My main objective of this paper is to find out reasons for gender gap in higher education in respect to rural and urban area and field of education. (Academic and technical)

Keywords: *higher education, quality assurance, gender diversity, supra-institutional policies, Disparity.*

1. MEANING OF HIGHER EDUCATION AND QUALITY ASSURANCE

Higher education is a stage to know more and more. It is a foundation of any profession. In higher education we basically get in-depth knowledge of concern field. To understand the concept of higher education, we should focus on our predominantly given by Ronald Barnett (1992). He saw Higher education as the production of qualified human resources, as training for a research career, as the efficient management of teaching provision and as a matter of extending life chances. Therefore higher education covers teaching, research and extension.

Higher education system in India imparts education in almost all fields of knowledge viz.: Arts, Science, Commerce/Management, Education, Teachers training, Engineering/technology/architecture, Medical, Law /Agriculture /Veterinary, music and performing arts; national and foreign languages; culture; communications etc.

David D. Dillin his work term the term quality assurance in higher education as academic standards which are maintained and improved. He further makes a useful distinction between internal and external academic quality assurance. He refers Internal quality assurance to those policies and practices which are monitor and improved by academic institutions themselves while external quality assurance refers to supra-institutional policies and practices whereby the quality of higher education institutions and programs are assured. He further added that Individual universities have always possessed policies and practices designed to assure the quality of education, but academic institutions have also always operated within a national policy framework designed by the state to assure academic standards.

2. ROLE OF NAAC IN HIGHER EDUCATION

It is true that the quality of education provided by the institution will have "Quality Measure on some parameters. In this respect the National Assessment and Accreditation Council, an autonomous institution was formed under the aegis of UGC. Thus NAAC has given new dimensions of "Quality Measure" to the institutions through a continuous process of assessment thus providing an opportunity to institutes to have self evaluation keeping in mind various criteria with many supporting key aspects. The seven criteria developed by NAAC to measure excellence are in fact the main processes for developing the capabilities of an institution. Establishment of an Internal Quality Assurance Cell (IQAC) in each of the HEIs would help develop and raise their capabilities as institutions. The seven criteria are: curricular aspects; teaching, learning and evaluation; research, consultancy and extension; infrastructure and learning resources; student support and progression; organization and management; and healthy practices.

3. DISPARITY IN ACCESS TO HIGHER EDUCATION

Mostly 4 kinds of Inequity in higher education are visible in India: gender disparity, geographical inequity, minority-majority based inequity, and inequity based on economic class.

India is land of diversity. This diversity can be seen in forms of language, religion, caste, geographical land etc. India's unique geographical feature not makes it different from other world but also bring lots of problem in its land. Due to geographical diversity even our government is not able to provide equal

educational facility to every one. Hill areas and remote area are still far away from our government reach.

Minority-majority based inequity means religious and language minority, SC and ST. Still narrow minds of our society stop minority-majority group to achieve their dreams.

Economic plays an important role in the growth of any nation. In such growth education also an essential term, but due to huge gap between poor and rich aim of education fails.

In this paper my concern is to focus on gender disparity in higher education. The constitution of India provides equal right and opportunities to women through some fundamental right and directive principles of state policy guarantees like Article 14, Article 15(3), Article 39(e) and Article 51 A (e) which confers equal opportunity to women in political-economical-social sphere, means of livelihood, pay and dignity etc. In this connection some important commission like **Durga Bai Deshmukh commission (1958-59)**, **Hans Meheta Commission (1962-64)**, **N.P.E (1986)** and **P.O.A (1992)** was also appointed. There was a pronounced policy shift from equalization of educational opportunity to women empowerment. Recently the government has enacted the national policy for empowerment of women 2001. As a result the gender disparity remains alarming even in present decades.

Manisha RANE In her paper focus on gender discrimination in higher education in India. She used the term paradoxical for Indian society because on one side girl students are performing very well in all faculties of education, many of them are topping the merit lists, the percentage of passing is more than the boys, but at the same time according to 2011 Indian census, 35% women are illiterate. She has also discussed the statical data to prove her point. The percentage of literate women in higher education is very low. Again there are educational disparities on the ground of rural-urban, poor-rich, higher-lower caste etc. Her paper tries to highlight the challenges in education before the girl students of the Department of Sociology, their ambitions, career choice and hurdles in their education, their experience about gender discrimination in the family, family back ground, use of facilities or concessions given by the government, etc.

Times of India HRD survey also focus on Gender gap in India's institutes of higher studies by comparing academic and technical or professional courses of higher education. in 2016-17 academic session, according to a survey of the HRD ministry percentage of women participation has reduced by nine lakh in the last five years with girl students outnumbering men in eight disciplines.

We can see significant gap in BTech, MTech, law and programmes like MBA. In BTech, there are only 39 women per 100 men, hardly any improvement from 38 women in 2012-13.

Naseem AK* and Arif R In their paper saw higher education as a serious problem in which a very high degree of inequity-

between different social groups, between men and women, between rural and urban areas, and between the rich and the poor can be seen. He further said that Gender differences have narrowed down over the years to a substantial extent. Currently about 40 percent of the enrolments are women, though there is a concentration of them in some areas of study. Declining quality education It is widely felt that the quality and standards of higher education are rapidly declining. According to a sample survey of universities and colleges only five of 18 central universities and 33 of 121 state universities received an A grade from the NAAC. The inadequacy of public funds is a very serious problem that the higher education system in India suffers from. It is related to many of the issues mentioned, including falling standards and quality; widening inequalities; the growth in private institutions-specifically profit-seeking ones; the introduction of self-financing courses, even in the best universities; and the increasing reliance on student fees and loans as well as other cost recovery measures.

Tushar Kanti Gharain his work talks about gender diversity in higher education in context of the rural and urban area. He said that the women participation in higher education is increasing in almost all states but establishment of higher educational institutes for women especially in rural areas are still in dearth and women enrolment is still low as compared men enrolment.

Nandita Singh, also discussed the rural and urban area diversities in context of gender gap. she has mentioned Cultural, social and economic factors which prevent girls from getting education opportunities. The status of the girl child has been a subject of much discussion, controversy and debate From many times. From the start, girl child is seen as burden rather than a blessing, bearer of exorbitant dowry, who will eventually move into the home of her husband. As a child; a girl receives less food, attention and emotional support than her male counterpart; as an adult, less attention is paid on developing her potential and more on matrimony and motherhood as these are regarded the essential and overarching goals of her life and all education is a preparation for that. she also talk about Physical safety of the girls, especially when they have to travel a long distance to school and fear of sexual harassment are other reasons that impede girls' education. In the urban areas, however, there is a vast difference in the opportunities that girls get for education and employment. There is an element of awareness of gender issues in the more educated sections of society in certain regions. Moreover, urban spaces permit greater opportunity for personal autonomy to girls. Though the figures for girls would still be low as compared to boys, but whenever we give the opportunity to girls they perform excellent than boys. We can take the example from Central Board of Secondary Examinations for grades 10 and 12, which are at an All India level, girls have for over a decade now, getting all the top positions and secured a higher overall percentage compared to boys. In employment opportunities too, women in India today have stormed all male bastions. Be it piloting aircraft, heading multi-national

corporations, holding top bureaucratic positions, leading industrial houses, making a mark as doctors, filmmakers, chefs, engineers and even as train and lorry drivers, women have made it to all so far considered male bastions in India. However, this is not reason enough for us to cheer. For the number of girls and women who have been left out of education and employment opportunities still far overcharge those who have got them. It is important to realize that fewer girls survive in the system long enough to reach the end of secondary education. And what is needed to change this scenario is not just governmental efforts but a change in societal norms, in cultural and traditional biases and in general mind sets of people. And in this major role is play by media, the civil society, and the youth, the women and girls. In the rural areas, the girl child is made to perform various household and agricultural chores which is limiting girls to attained education. However, the 2001-02, MHRD (2001-02) provides information on the women teachers in the 12 open universities which is 18.4% and 21.5% in the institutions offering correspondence courses. There has been phenomenal expansion of educational opportunities for women in the field of higher education both general and technical. Women education at the university-both college levels has been diversified and reoriented in tune with the changing requirements of the society, industry and trade. The number of women enrolled in institutions of higher education increased from 40, 000 in 1950-51 to about 14, 37, 000 in 1990-91 recording an increase of more than 36 times over the forty-year period. And in the year 2004-05 the number increased to 3, 971, 407. Proportion of women entering higher education 1950-51 was 10.9 percent and in 2002-03 it was 40.04 percent. The number of women per 100 men in 1950-51 was 14 which increased to 67 in 2002-03. There are also wide disparities in enrolment by region, caste, and tribe and by gender. These differences impact on women from the disadvantaged groups. In 2001-02, the proportions of SC/ST students were as follows: Scheduled Castes 11.5 percent (1, 016, 182) SC men 8 percent (7, 06, 769) and SC women 3.5 percent (309, 813). The ST students constituted 4 percent (351, 880) of total enrolment; men 2.7 percent (240, 495); women 1.3 percent (114, 168). In M.Phil/Ph.D. programmes, there were 53, 119 students all over the country. Of these 36.3 percent (19, 299) were women; 5.9 percent (3, 133) SC students; and 1.80 (951) ST students. There were 824 SC women and 344 ST women, i.e. 4.3 percent and 1.8 percent respectively of all women research students. It is quite well known that in spite of a very well formulated policy of positive discrimination, the representation of SC/ST students is not adequate and the proportion of women is negligible. They generally join general education courses and are denied access to elite/courses and institutions.

Further, disciplinary choices are affected by socio-economic factors especially in the case of Scheduled Caste/Scheduled Tribe students whose representation remains marginal in higher education. But they too, are better represented in states in which women have better representation and in which higher education facilities have expanded in recent years.

4. CONCLUSION

In conclusion we can say that gender disparity is a major concern of higher education and Indian government is doing its best to overcome such disparity, but some social challenges and geographical areas are becoming obstacles in the path of higher education. Such obstacles can be removed by creating awareness regarding gender discrimination and providing conducive learning environment where women can achieve high levels without any fear. We should make changes in our curriculum and pedagogy to meet the issues related gender gap in every field of education. It is imperative that the younger generation is systematically exposed to issues of gendered deprivation as they are essential tool to bring modification in any nation.

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Challenges in Ensuring Quality in Higher Education

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Abstract: *Progress of a nation is possible only when its citizens are dynamic, enterprising and responsible. Higher education plays a vital role in the overall development and growth of a nation. The core mission of higher education is to educate, to train, to undertake research and to contribute to the sustainable development and improvement of society as a whole. Higher education should enhance its contribution to the development of the whole education system, notably through improved teacher education, curriculum development and educational research. Poor quality of higher education depends on various factors such as favorable environment for teaching and learning, infrastructure, teachers, curriculum etc. To improve the quality of higher education the concerned authorities have to concentrate on the parameters such as sufficient infrastructure, updated curriculum, trained faculties, learning resources etc. of quality higher education. Present paper focuses its attention on the issue of quality concerns in higher education in India, challenges and factors influencing the quality of education.*

Key Words: *Higher education, Opportunities and challenges, Enrolment, Privatization*

1. INTRODUCTION

Higher education is of vital importance for the country, as it is a powerful tool to build knowledge-based society of the 21st Century. With the growing size and diversity of the higher education sector particularly in terms of courses, management and geographical coverage, it has become necessary to develop a sound database on higher education.

The 'Right to Education Act' which stipulates compulsory and free education to all children within the age groups of 6-14 years, has brought about a revolution in the education system of the country with statistics revealing a staggering enrolment in schools over the last four years. The involvement of private sector in higher education has seen drastic changes in the field. Today over 60% of higher education institutions in India are promoted by the private sector. This has accelerated establishment of institutes which have originated over the last decade making India home to the largest number of Higher Education institutions in the world, with student enrolments at the second highest (Shaguri, 2013). The number of Universities has increased 34 times from 20 in 1950 to 677 in 2014. Despite these numbers, international education rating agencies have not

placed many of these institutions within the best of the world ranking. Also, India has failed to produce world class universities.

Despite these challenges higher education system of India equally have lot of opportunities to overcome these challenges and have the capability to make its identity at international level. However, it needs greater transparency and accountability, the role of universities and colleges in the new millennium, and emerging scientific research on how people learn is of utmost important. India provides highly skilled people to other countries therefore; it is very easy for India to transfer our country from a developing nation to a developed nation.

2. OBJECTIVE OF THE STUDY:

To analyse the present status of higher education system in India To highlight the opportunities and challenges faced by the higher education system in India.

3. CHALLENGES FACED BY EDUCATION SYSTEM IN INDIA:

- Enrolment ratio less than 20%
- Traditional methods of teaching
- Lower level of teaching quality
- Privatization of higher education
- Disparities on access to education based on, Caste, religion, class, gender etc
- Inadequate facilities and infrastructure
- Lack of relevant teachings
- One teacher for 98000 schools.
- Reservation and quota system
- Only 722 universities for higher education should be at least 1500.
- No reliable data available regarding education status.
- No review of education policy in last 50 years. Increase in self-financed private institutes.

4. FACTORS INFLUENCING QUALITY IN HIGHER EDUCATION:

Quality in education depends on several factors. A few of them include:

- **Poor quality of intake:** In order to attract students for admission, the colleges go on awarding high grades/marks to undeserving candidates. The colleges/university departments admitting students on the basis of career marks get cheated in many situations and thus get poor quality of students.
- **Inadequate Student Services:** Most of the higher education institutions today are not capable enough to provide services like conducting orientation programmes, health services, hostel facilities, guidance and counseling services to the students.
- **Inadequate material resources:** Most of the higher education institutions at present does not have proper material resources like building, play ground, good number of classrooms, infrastructure, laboratory with sufficient equipments, toilet facility, and staffrooms.
- **Non- accountability of institutions:** Non-accountability of the institutions leads to the poor quality in higher education.
- **Inefficiency in Teaching:** An effective teacher needs to be lifelong learner and need to strengthen his knowledge voluntarily. The institution should be supplied with various journals and good library facility which will energize the teachers' proficiency and competency.
- **Examination Reforms:** Reforms in the examination system is the most common phenomenon in the recent past. Most of the researchers and academicians are not satisfied with the present examination system. This can be changed by using the new methods of grading system and other various innovative methods.
- **Teaching Methods:** the curriculum framework should be such a way that it should provide new knowledge which is useful to the society and also provide the employability opportunities. The teachers should use qualitative teaching learning material and also aware of use of multimedia.

There are other factors also which are affecting the quality of higher education such as motivation of the teachers and students, favorable environment for teaching-learning process, irrelevance of the curriculum leading towards the low employability etc. which needs to be improved for enhancing the quality of higher education in India.

5. SUGGESTIONS IMPROVING THE SYSTEM OF HIGHER EDUCATION:

- There is a need to implement innovative and transformational approach from primary to higher

education level to make Indian educational system globally more relevant and competitive.

- Higher educational institutes need to improve quality and reputation.
- There should be a good infrastructure of colleges and universities which may attract the students.
- Examination reforms, gradually shifting from the terminal, annual and semester examinations to regular and continuous assessment of student's performance in learning should be implemented.
- Universities and colleges in both public private must be away from the political affiliations.
- Vocational and Diploma courses need to be made more attractive to facilitate specialized programs being offered to students.
- Incentives should be provided to teachers and researchers to make these professions more attractive for the younger generation.
- Combination of arts subjects and computer science and science and humanities or literature should be introduced so that such courses could be useful for the students to do jobs after recruitment in some companies which would reduce unnecessary rush to higher education
- Indian government is not giving priority to the development of Standard in education. India should aspire for the international standard in education.
- There should be a multidisciplinary approach in higher education so that students knowledge may not be restricted only upto his own subjects.

6. CONCLUSION

- It can be concluded that education is the key to the progress especially higher education which provides the cutting edge and skilled manpower. But, quality of higher education is declining and is a matter of concern for all the stakeholders as well as for the whole nation.
- Higher education in India is an extraordinarily important part of modern Indian society and it is intertwined in the political and social systems of the society. It is in need of change, development and important. In order to effectively plan for reforms and improvement, it is necessary to have in realistic perceptions .
- Indian higher education has expanded in quantity but lacking behind in terms of quality. India cannot progress until it higher education system is qualitatively strong enough because this poor quality is resulting in low employability, low performance of the specialized individuals, lack of innovative and creative ideas etc. which

are the key elements of success and progress in present time.

- To improve the higher education system we need to improve teaching pedagogy, build synergies between research and teaching, facilitate alliance of higher institutions among themselves, research centers and industries. This is necessary not only to take care of economic growth, but it is also essential for social cohesion and to empower the country's youth.
- In all, there is a need to enlarge the adaptive capacity and quality of the higher education system so that it is more responsive to the changing world of work and meets the diversified needs of economy – both domestic and global. For that purpose diversification of the Indian higher education and training system has to be pursued as a goal. This can be achieved by having a proper mix of public and private, formal and non-formal institutions.
- Special initiatives are required to enhance employability. Curriculum and content has to be continually renewed through Teaching and Learning Support Networks and specific skill development network may be set up.

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Road Map to Higher Education in India

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Abstract: Higher education plays key role in the development of any economy. Since independence the growth curve of higher education in India is increasing in absolute numbers. Indian higher education system witnessed major transition whereby unlike modern education ancient times was mainly concerned with disseminating Vedic education. This paper highlights the changing face of education system in India with special focus on higher education system while throwing light on challenges and initiatives undertaken by government to internationalise the Indian higher education system.

Keywords: Higher Education, Commercialisation

1. INTRODUCTION

In the words of Nelson Mandela “Education is the most powerful weapon to change the world”. Higher education is also called post-secondary education that occurs at +2 level. Higher education in any country plays the key role in its overall development and hence it cannot be neglected or ignored. There is growing importance of higher education across the world in an era of cut throat competition, growing complexity of jobs, increased demand for new and updated skills. In response to this, there is tremendous increase in the number of educational institutions imparting higher education. It is a key to empower youth of the country so as to make them self-sufficient. Universities in India are divided into various categories namely: Central Universities, State Universities, University level institutions and Deemed to be Universities. The responsibility of providing higher education is shared by both Centre and States. For the establishment of Central Universities/Institutions Central Government provides grants to the UGC (University Grant Commission). UGC having headquarters in New Delhi is a statutory body constituted by Indian Union Government in accordance to the UGC Act 1956. It is entrusted with the determination and

coordination of standards in higher education, provides recognition to universities and make disbursement of funds to various recognised colleges and universities. Apart from UGC there are various other regulatory bodies like AICTE, COA monitoring the standards of higher education.

The system of higher education has grown remarkably in India being third largest in the world after United States and China. As per the update in 2014 by Ministry of Human Resource Development, there are 677 universities amongst which 45 are Central Universities, 318 State Universities, 185 Private universities, 129 Deemed Universities. Besides Universities there are 11, 443 stand-alone institutions and 37, 204 colleges in India. Colleges award degrees through their affiliation to a university. As per these statistics universities have increased by 34 times from 1950 to 2014 along with manifold increase in number of colleges and institutions. All the above data and facts shows quantum growth in the sector of Higher Education. The data in 2016 showed further increase amongst which there are 799 universities including 540 state universities. Various accreditation agencies like NAAC, NBA are ensuring the quality in this sector as it is mandatory for all institutions to get themselves accredited as per UGC Regulations, 2012. Despite of remarkable growth of institutions in past year where numbers are large in absolute terms but higher education is still not accessible to large number of population particularly the poorest one. The major reason behind this can be attributed to government’s more attention on primary education than on higher education. Thus, Indian education system lag behind its foreign counterparts. There is also a stress on opening more of vocational schools so that burden on colleges may get reduced and attractive avenues of employment are available to students.

The below table shows allocation of expenditure to different segments of education:

Type of Education	2013-2014	2014-2015 (BE)	2014-2015 (RE)	% Change	2015-2016 (BE)	% Change
(a) Primary Education	36803	39665	41505	12.8	36829	-11.3
(b) Secondary Education	10053	5450	5300	-47.3	5390	1.7
(C) Higher Education	24465	27656	23700	-3.1	26855	13.3
Total	71321	72771	70505	-1.1	69074	-2.0

Source: India Budget: 2015-2016, MHRD

RE: Revised Estimates

BE: Budget Estimates

2. COMMERCIALISATION OF HIGHER EDUCATION:

The concept and idea of commercialisation of higher education began in 90s with the advent of globalisation which witnessed reduced public expenditure on higher education. At that time renting of higher education facilities, reduction in government subsidies was sorted out. In response to this “The Private Universities (Establishment and Regulation) Bill” was introduced in 1995 from which the era of self-financed institutes and universities started in the history of India. Now, India’s Higher education has private institutions dominance which covers almost 60% of the total institutes. Recently, in 2018 Telangana passed Private universities Bill allowing private universities to be established in their state. Private universities are allowed in almost all states except few which has increased private participation remarkably. Thus, there is huge transition in ideologies and policy motives of higher education from welfare motive to liberal market policy (Tilak, J. (2012)). Indian higher education system in recent past have seen reforms like Choice Based Credit System (CBCS) which indirectly encourage privatisation. There is also burgeoning increase in giving autonomy to colleges in recent past where the colleges are free to set up their own syllabus and conduct their own examination but degrees are awarded in the name of university.

Categories of Universities:

Indian higher education system is complex including variety of institutions like universities, colleges, polytechnics etc. Universities are further divided into following sub-heads:

1. **Central University:** Incorporated by Central Act or Act of Parliament
2. **State University:** Established by Provincial Act or by a State Act. Such Universities are run by state government of each state
3. **Private University:** It is not funded or operated by government. Such university is generally supported by various bodies and societies. As per UGC Act, Private Universities are established by an act of a local legislative assembly and listed by the UGC in the Gazette. It can also be defined as “a society registered under the Societies Registration Act 1860, or any other corresponding law for the time being in force in a State or a Public Trust or a Company registered under Section 25 of the Companies Act, 1956”.
4. **Deemed to be University:** It is a high performing institution which has been declared as an Institution Deemed to be University by Central Government under Section 3 of the University Grants Commission (UGC) Act, 1956. On the advice of UGC such autonomy status is granted by Department of Higher Education under Section 3 of UGC Act, 1956.

Educational Institutions today have key role in shaping future of any society in this world. These institutions provide appropriate skills which can identify and bridge skills gaps required in job markets, thereby helps in developing quality workforce which not only enhances organisational productivity and growth but also contributes to economic prosperity of the country. Businesses are a dynamic entity with use of more automated technology due to which several early generation jobs ceases to exist. One of the main aim and mission of higher education is to provide excellence and quality education through teaching, research, exposure, training and development of first class minds.

To achieve excellence in higher education there must be proliferation of pro- active approach instead of passive one. Educational Institutions advances opportunities for professional training and development, prepare them for different sectors of economies by keeping pace with innovation and economic changes across the globe. Such education enhances quality of life, well-being, improves prosperity, addresses social challenges and thus improves country’s competitiveness. Knowledge creation is the key and true basis to succeed in today’s economy by creating high-wage employment.

In India CABE (Central Advisory Board of Education) is the supreme advisory body apart from the fact that all states have freedom to develop and implement their own education policies. Burgeoning importance of education made the government to introduce many new education policies. Some of these are listed below:

1. **Compulsory PhD degree for university teachers:** In order to improve the quality of higher education in India a PhD degree has been mandated for all university level teachers.
2. **National Digital Library:** It is an online library with millions of digital books and journals which enables registered users to access library free of cost. It consists of eBooks on variety of subjects.
3. **IMPRINT- I & II:** IMPRINT (IMPActing Research, INnovation and Technology) is an initiative of MHRD under which public funding is given to research projects of social importance.
4. **SMART INDIA HACKATHON:** It is an open invitation to students for providing solutions to common problems. In 2017, 40, 000 students participated which increased to 1, 00, 000 in 2018.
5. **National Academic Depository (www.nad.gov.in):** It is a depository which enables electronic storage of certificates and degrees.
6. **Pandit Madan Mohan Malviya National Mission for Teachers Training (PMMMNMTT):** It is a mission launched after the name of freedom fighter for providing

in-service training to college and university teachers so as to build strong professional cadre. The program aims at overall development of teachers in terms of pedagogy, curriculum development etc.

7. **Integrated B.Ed.:** In order to improve teaching learning process a 4-year integrated programme is implemented for those who wish to enter into teaching profession. It would be a 4-year program like any other professional course.
8. **Expansion of Higher education:** In order to bridge the gap between demand and supply in higher education sector many new universities have been opened including 14 IIITs, 7 IIMs, 7 IITs and 1 NIT.
9. **GIAN:** GIAN (Global Initiative for Academic Network) is an initiative undertaken for internalisation of education. It is a scheme which enables foreign faculties to deliver lectures for short term courses in Indian academic institutes. As per last data 700 professors from 58 countries have undertaken 1117 courses.
10. **Study in India (www.studyindia.gov.in):** In order to improve global ranking of Indian institutions students across the globe are encouraged to study in top institutions of India as per NAAC. This unique initiative launched in April, 2018 aims at making Indian institutions as a preferred education hub. This portal is beneficial for foreign students seeking to study in India.

Other policies in Primary and secondary education:

11. Revision of No detention Policy for class 5 & 8:

Now it is mandatory for students to pass the exams before moving to the next one.

12. Sexual Harassment Complaints:

As per new regulations; now even male can file complaint against sexual harassment i.e. complaints can be lodged by all sexes

13. Mandatory Yoga Training and Classes:

Such directions are mandatory for all ICSE and ISC Schools so that students get regular Yoga classes and training

14. Norms regarding Regular Degrees:

Two regular degrees cannot be pursued simultaneously. Universities are directed to follow the rules and guidelines prescribed by Statutory Council

15. Initiative by Assam Government:

Free higher education viz secondary education, degree and diploma courses for poor students.

16. Initiative by Guwahati Government:

State Government of Guwahati announced free education to students with disabilities in 2016 from Class 9 till university level.

17. Training of Teachers:

Announcement by Delhi government to send government school teachers abroad for training and refreshment courses

18. Rajiv Gandhi Digital Student Yojna:

Disbursement of laptops to those students who have obtained distinction in Classes 10 & 12 by Himachal Pradesh Government in 2016

3. CHALLENGES:

Higher education in India is treated as “non-merit good” which is the major reason behind the crisis of Higher education in India as it is being left on the plea of private sector by drastically reducing the funds in this sector.

1. Education today lacks its true essence and pushing us towards ignorance. Despite of the fact that more and more people are getting educated, the world is not becoming a better place to live in. As it has now only become a source of transmission of facts, data and information. It lacks the transmission of true meaning of life in terms of basic moral values and ethics. Education at all levels must inculcate *values* in the students. It must make value addition in our life by teaching the basic rules of living like tolerance, non- violence, self -control, self-realisation, self -actualisation, respect others etc.
2. Indian education system lacks employability and fails to impart advanced skills. Such statement is evident by the fact that despite of huge number of institutions in India, there is rapid increase in the number of students going abroad for higher education.
3. Outdated courses and syllabus in many universities. Slow pace of adaptation to changes. We can see increased number of fancy glass edifices (buildings) charging hefty amount as fees from students and touting themselves for money in return of degrees.
4. Lack of quality education and reorientation of programmes. In this regard proper investigation and Accreditation of institutes is important for assuring Quality in Higher Education.
5. In an era of globalisation where there is almost free access to internet, producing intelligent and updated human resource pool through teaching and research is a challenging task.
6. In many universities there is huge involvement and appointment of bureaucrats as Vice Chancellors and Registrars. Bureaucrats must be avoided while reinventing in education as far as possible.
7. There is improper allocation of resources and expenditure in University and institutions. Top priority must be given to core academics, student’s welfare, scholarships etc. during disbursement of funds.

8. Lack of uniformity in examination and grading system across the country.
9. There is very poor **Gross Enrolment Ratio (GER)** in Higher Education. Regardless of age GER in Higher education is calculated for 18-23 years of age group to depict the percentage of population participating in higher education. As per latest Statistics (2016-17) by All India Higher Education Survey GER is 25.2% which is too less than USA's GER i.e. 85.8%. Data shows highest score of Tamil Nadu and poorest for Bihar in terms of GER followed by Jharkhand and West Bengal.
10. There is limited focus on quality research work as papers published in India has low citation impact due to which our institutes fail to make a place globally.

4. SUGGESTIONS

To sustain quality and standard of Higher education it is necessary to ensure the following:

1. Transparency
2. Proper Accreditation Mechanism
3. Evolution and uniformity of Examination System
4. Continuous Orientation Programmes & Workshops for teachers
5. Appropriate Feedback mechanism
6. Inculcate Value system in Education
7. Encourage Sports and Physical fitness programmes
8. More on the Job learning Programmes
9. Partnering of Industries with Educational Institutions
10. Better Infrastructure
11. Efforts and policies should be made to improve the GRE score of India in world ranking as country cannot advanced economically without such ratio.
12. Re-examination of policies in Higher education. There is a need for reform in Indian education system whereby issues like vocational studies, transparency, high standards, professionalization should be addressed.
13. Sustained funding in the sector of higher education from government as it is such an essential sector of the country which cannot be ignored.

14. Enhance flexibility by broadening of student choices for more practical and professional approach.
15. More focus on placement-oriented sessions and programmes of students so as to increase employability of graduate students.

5. CONCLUSION

Indian Higher education system is on a track of fact pace growth. But despite of being third largest higher education system in world it is still confronted with many challenges which needs to be addressed by reforming the current policies in India. Efforts needs to made in the light of improving the quality of education so as to make Indian degrees competitive in world market while also improving Gross Enrolment ratio. Rejuvenation of education system is required for the overall growth of economy and empowerment of youth. But in this context it is also important to note that while competing in the race of internationalisation Indian education system should not forget its root i.e. welfare and upliftment of overall humanity.

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Service Quality in Technical Education

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Abstract: *Learning has no limitations of age or stage. Education is the basic ground for growth. It is mandatory system for every citizen. Education industries are the part of service sector. In Indian economy service sector contributed highly in GDP for better development. That's why it is necessary to maintain and improve the quality of education level. This paper highlighted that the government and private partnership helps to improve the quality of technical education. Service quality becomes a competitive differentiator for the service industry. The different technical, management and engineering programmes are introduced by education industry. The youth of India involved in race of technical education, but the gap between perception, expectation and satisfaction of students and service quality level of industry. So bridging this gap government timely launches some strategies and policies for better and effective results. Different models and instruments are outlined here for measuring the level of service quality.*

Keywords: *service quality, service quality in technical institutions, swot analysis of technical education, government steps and reforms*

1. INTRODUCTION

According to Henry Ford Quality means doing it right when no one is looking. Due to globalisation and rapidly change in the environment & technology it is necessary to prepare the productive and technical education system for the students. In 21st century during the globalisation government focused on technical education & treated the education as an industry. The policies and regulations are made by central as well as state government as a partnership basis. Past two decades Indian government try to increase the number of private institutes and university to spread the technical education and produced well-groomed professionals as well as engineer who work efficiently either single or with team to remove & solve complex problem. It is imperative to look critically into the present trends in technical education to ensure the quality and utility to face the challenges easily that the exciting 21st century will provide in the wake of globalization ⁽¹⁾. Service quality means filling the gap between customer's expectations and perceptions. In today era where students having so many

options for the educational institutions various kind of factors influence to attract & retain the students which wants to gain competitive edge in the future. So it is very necessary to every institution to maintain their quality yet the student expectation fulfilled and they satisfied because some university understand the value of the students. According to a report, Rao Committee report: "A serious situation has arisen in recent years because of these mushrooming of a large number of private technical institutions and polytechnics. Barring some exceptions, there is scant regard for maintenance of standards." In simply, quality is a tool to basically maintain the equilibrium between the environments of institution internal as well external. The SWOT analysis is a tool which may provide a clear picture of an existing system (internal as well as external). It is part of strategic planning which help in making productive policy options and recommendations for the development of human capital formation in technical fields of manpower development.⁽²⁾ India has 3rd largest system of higher education after US and China.

BACKGROUND

In the last past decades not even only government of India but the private institutions also showing high interest to promote the technical education through implementing some strategy and reforms. The Scientific Policy Resolution adopted by Indian parliament in 1958 for development in the Science, Technology and Engineering sectors. The "Technology Vision for India 2020" released by the Prime Minister in 1996 calls for India to become a developed nation by 2020 and one of the five biggest economic powers⁽¹⁾. Now technical Education guided through Service Quality concepts to achieve excellence.

Service Quality concept is an integrated system of principles, methods and best practices that will provide a framework for organizations to strive for excellence in everything they do.⁽¹⁾ There is an extensive literature is available in higher or technical education with causes and consequences of quality education. So many models are adopted to study the different level and student's experience on service quality of higher education. But the SERVQUAL has attracted the greatest attention to measure the perceived quality in higher education sector ⁽³⁾. The main focuses of the educational institutes are to continuous improvement in the service quality.

2. SERVICE QUALITY

2.1 Service

In the competitive world, service quality has totally become a competitive differentiator for the service organisations. Service is totally different to the manufactured good. Services are an economic activity which create some values and provide benefits to its client at specific time and place as a result of a desired change on the behalf of one that who receives the services.⁽⁴⁾Service quality basically means expected quality of services and perceived quality, the gap between expected and perceived quality shows the satisfaction level of the customers.

2.2 Quality

Quality is nothing it is that term or point or ability to satisfy the stated and implied needs. It is the totality of the characteristics of an entity. Various kinds of standards are used to measures the quality levels which are differ industry to industry. Quality is defined as the extent to which the service, its process and the organisation can satisfy the expectation of user's need.

2.3 Dimension and Measurement of Service Quality

TABLE 1: Service Quality Measurement Scale⁽⁵⁾

Measurement Scale	Quality Dimension
SERVQUAL	Tangibles; Reliability; Responsiveness; Assurance; and Empathy.
SERVPERV	Tangibles; Reliability; Responsiveness; Assurance; and Empathy.
HEdPERF	Non-academic aspects; Academic aspects; Reputation; Access; and Understanding.
EduQUAL	Learning outcomes; Responsiveness; Physical facilities; Personality development; and Academics.
SQM-HEI	Disciplinary measure taken; Placement-related activities; and Overall rating of service quality and satisfaction level
EDUSERVE	Empathy; School facilities; Reliability; Responsiveness ; and Assurance discipline

2.4 SERVQUAL & EduQUAL

SERVQUAL model developed by Parasuraman, Zeithamal and Berry to measures the quality of services in service sector. They developed the GAP model for measurement (Perasuraman etnal. 1985). This model was completed into three steps:

i) Conceptual Model: In this model, the concepts are formulated. In this the parameters, elements and the ingredients of the services quality are formulated.

ii) SERVQUAL: In this a questionnaire was prepared by the pioneers in which 10 dimensions were defined for measuring the quality. These are followings: Reliability; Access; Security; Creditability; Responsiveness; Competence; Courtesy; Tangible; Degree of customer understanding and Communication. On the above attributes the questions were prepared in the questionnaires to measure the quality of service which are perceived by the customers. But after sometime the attributes are narrowed and standardised into five elements only i.e. known as RATER. (Reliability, Assurance, Tangible, Empathy, Responsiveness)

iii) GAP Model: At last in the, GAP model; check out the satisfaction level of the customer. In this model only five gaps are considered⁽⁶⁾:

- 1) Customer Expectation vs Company Expectation of Understanding
- 2) Company Expectation of Understanding vs Standardisation
- 3) Standardisation vs Actual delivery
- 4) Actual delivery vs Communication

EduQUAL: SERVQUAL is the widely used quality measurement instrument because it is easy to use and simply structured. The service quality is mainly depend upon the behaviour of human; as per the behaviour of human the quality instruments differ in different service setting.⁽⁷⁾ For matching the service setting as particular quality measurement the SERVQUAL dimensions are modified. In education sector physical evidence of service is not available; so it creates difficulties to measure the quality of service. It is very complex to analyse the service quality in education. To supporting TES (technical education system) and for its better growth a new instrument EduQUAL has proposed to measure the quality of educational in technical institutions, satisfaction level of different stakeholder. In this different stakeholder who belongs to different backgrounds and behavioural patterns; they evaluate the quality at an aggregate level of fitting.⁽⁸⁾

3. SERVICE QUALITY IN TECHNICAL INSTITUTION

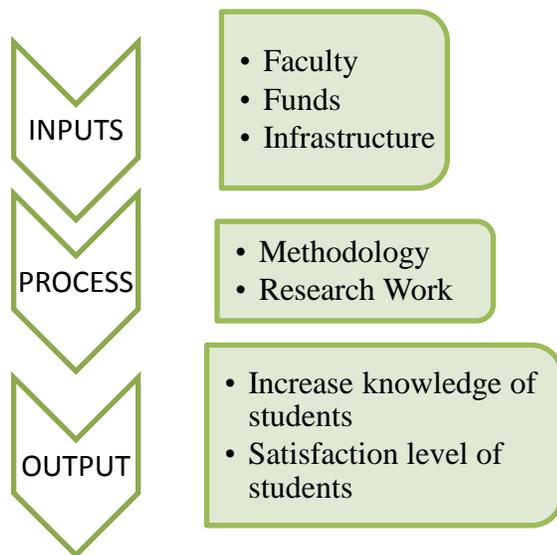
In today scenario, the base of engineering education is commercialization. On the large scale Education cannot be produced as well as stored. Education is basically considered two main parties in which one is staff or faculty and second as well as important is student which is highly complicated to define in accurate term.

Variables of Service Quality Measurement in Technical Education⁽⁹⁾

- TQM in Technical Education: TQM is the best Japanese management tool for reducing the cost and improve the quality. In the education industry the evaluated the quality timely yet better outcomes given to all the perspective

students. Quality is measured in terms of values, departmental coordination and also check out the course material is updated or not? Now these days, two terms are play vital role and must require part of TQM:

- Quality Enhancement- It refers the internal environment of the institution, which are basically having three level i.e.
 - Subject level (related to knowledge and resources availability)
 - Institutional level (related to methodology and pedagogy)
 - Individual level (scholarship and training program)
- Quality Accreditation- Quality assurance means to adopt some certain standards to attract customers through better outcomes. Through these standards the system and faculty are evaluated.
- Performance of the Technical Education: It is very strong challenge for education industry to satisfied their customers and fulfil their requirement properly as well as maintaining a prominent position. Now, customers (students) are savvy, they want maximum return in form of better quality of education and outcomes. Performance of institution directly relate with service which are provide to students. This follows synchronization approach for better departmental coordination and increasing expectation related to institutes and its performance.IPO (Input-Process-Output) Model is considered to evaluate institutional performance:



- Market Orientation in Technical Education: Market orientation is also a strong variable for service quality measurement. It is relates with institutional internal environment. Its focus on to empower the faculty as well as satisfied requirements and needs of students. It is the base for future plans. Because it's basically highlighted the

organisation activities, transformation of information and plans implementations. It helps to create long term relations.

- Information System in Technical Education: Information is base for better future and helps to reduce the past mistake and create much better output from previous one. It shows the institution connectivity with the changing external environment. It is very relevant variable to measuring satisfaction. It provides direct contact between institute and students. Some factors are:
 - Information Quality.
 - Services and Location
 - Students level and Interaction with Faculty
 - Impact of Trained Faculty.

4. SWOT ANALYSIS

4.1 Educational Requirement TABLE-2: Past and Future Requirement of Education ⁽¹⁰⁾

Past Requirements	Future Requirements
Skills	Knowledge
Product centric	Learner centric
Graduate	Lifelong learning/ learning attitude
Cost of doing business	Competitive advantage
Passive participation	Active participation
Static content	Customized content
Instructor led courses	Library of learning methods

4.2 SWOT Analysis

Strengths

- Strong interest of student to learn about some technical and professional study
- Private sector created the admission facility
- Increase interest of educational industries associations and professional societies; partnership and collaboration of industries and academic institution
- Growing employment opportunities.
- Government funded different scheme for upgradation. For e.g. the TEQIP scheme funded by the World bank which provide necessary resources for upgradation of about 100 institutions in the country.
- To promote quality improvement programme.

Weakness

- Shortage of qualified and competent faculty

- Having lack of interest between students to choose teaching and research as a career.
- Lack of adequate industry-institute interaction
- Mismatch between educational curriculum and job requirement
- Lack of innovations and updating reforms in education

Opportunities

- IT tools are plays vital role for Technology-Enhanced-Learning for improving level of technical education
- Wide availabilities of distance education programme and courses
- At different level the technical education networking provide mutual benefits; like resources sharing, projects undertaking
- Networking with R&D labs and industries with technical institutions.
- The role of technology and education helps for national development.

Threats

- Competition between institutes and with international institutes
- Non uniformity in the geographical distribution e.g. inter-state migration of students
- Research scholars prefer computer based research rest of experiment research
- Students consider only present scenario not think about the future trends.

5. GOVERNMENT REFORMS AND STEPS⁽¹¹⁾

5.1 Government's vision for Technical Education

"To develop and nurture a Technical Education System in the country which would produce skilled manpower of the highest quality comparable to the very best in the world and in adequate numbers to meet the complex technological needs of the economy; and would provide the nation a comparative advantage in the creation and propagation of innovative technological solutions and in the development of a technological capacity of the highest order, both for its application in economic development of the country and for becoming a major supplier of technology and technological services in the world".⁽¹²⁾

5.2 Government Strategy

Government make some major systematic reforms to prevent the weakness and cover threats. The government report

outlined some independent elements and reform strategy which has scope of improvement:

- The National Policy on Education (NPE adopted: 1986; modified: 1992)

For the technical education this policy focus on quality and relevance, excellence, resource mobilization, greater institutional autonomy with accountability, networking, research, and equity at different level. The central government led new initiatives time to time to support system strengthens. Government up gradated 500 polytechnics through the Bank-assisted Technician Education Projects.

- A National Policy Initiative for Technician Education

This is approved in 1998 by the Ministry of Human Resource Development. It includes main elements: building partnership between institutions and industry; delegating certain decision-making powers and responsibility from state governments to institutions; awarding a high degree of autonomy to deserving institutions; high degree of flexibility in institutional program offerings and management; instituting a market-driven approach in curriculum design; utilizing institutional resources for a larger spectrum of academic services beyond formal academic programs; encouraging institutions to engage in income generation and resources mobilization activities; and involving institutions in the development process of the community.

- The GOI's Information Technology Policy (2000)

It supports appropriate scientific development and technical manpower at various levels to make India a leader in information technology.

- The GOI's X Five- year Plan (2002-2007)

This plan is focus on expansion of education facilities in information technology, conversion of Regional Engineering Colleges (RECs) as National Institutes of Technology (NITs) with a standard comparable to world-class institutions.

6. CONCLUSION

Technical education system has grown day by day in our country. Technical education offering different level of education and training opportunities with wide range of trades, different disciplines; certificate, degree, diploma, postgraduate degree and other. In India the quality level of higher education is not equivalent with global standard of quality. Technical education plays vital role in improvement of social, economic progressive, technology development. Change is must for survival so it is time to do some changes in teaching methods and aids, learning process and methods as well as changes in curriculum, etc. All these changes help to improve the quality of technical education according to present requirement and scenario of Education & Industry. Through this paper we concluded that the government has a vision to become the super power of technology in knowledge economy.

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Introduction to Higher Education

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Abstract: India has made progress in increasing the attainment rate of primary education. In 2011, Approximately 75% of the population, aged between 7 to 10 years, was literate. India's improved education system is often cited as one of the main contributors to its economic development. Much of the progress, especially in higher education and scientific research, has been credited to various public institutions. While enrolment in higher education has increased steadily over the past decade, reaching a Gross Enrolment Ratio of 24% in 2013, there still remains a significant distance to catch up with tertiary education enrolment levels of developed nations, a challenge that will be necessary to overcome in order to continue to reap a demographic dividend from India's comparatively young population. Present paper highlights the pre and post independence status of the higher education sector in India and also the present situation of education and the steps taken by Indian government to improve the standard of higher education in India.

Keywords: Higher Education, Annual Status of Education Report (ASER), NON-STEM Education

1. INTRODUCTION

At the primary and secondary level, India has a large private school system complementing the government run schools, with 29% of students receiving private education in the 6 to 14 age group. Certain post-secondary technical schools are also private. The private education market in India had a revenue of US\$450 million in 2008, but is projected to be a US\$40 billion market.

As per the Annual Status of Education Report (ASER) 2012, 96.5% of all rural children between the ages of 6-14 were enrolled in school. This is the fourth annual survey to report enrollment above 96%. Another report from 2013 stated that there were 229 million students enrolled in different accredited urban and rural schools of India, from Class I to XII, representing an increase of 23 lakh students over 2002 total enrollment, and a 19% increase in girl's enrollment. While quantitatively India is inching closer to universal education, the quality of its education has been questioned particularly in its government run school system. While more than 95 percent of children attend primary school, just 40 percent of Indian adolescents attend secondary school (Grades 9-12). Since 2000, the World Bank has committed over \$2 billion to education in India. Some of the reasons for the poor quality include absence of around 25% of teachers every day. States of

India have introduced tests and education assessment system to identify and improve such schools.

Although there are private schools in India, they are highly regulated in terms of what they can teach, in what form they can operate (must be a non-profit to run any accredited educational institution) and all other aspects of operation. Hence, the differentiation of government schools and private schools can be misleading.

In January 2019, India had over 900 universities and 40,000 colleges. In India's higher education system, a significant number of seats are reserved under affirmative action policies for the historically disadvantaged Scheduled Castes and Scheduled Tribes and Other Backward Classes. In universities, colleges, and similar institutions affiliated to the federal government, there is a maximum 50% of reservations applicable to these disadvantaged groups, at the state level it can vary. Maharashtra had 73% reservation in 2014, which is the highest percentage of reservations in India.

In many developed countries, participation in higher education has continued to increase towards universal or, what Trow later called, open access, where over half of the relevant age group participate in higher education. Higher education is important to national economies, both as an industry, in its own right, and as a source of trained and educated personnel for the rest of the economy. College educated workers have commanded a measurable wage premium and are much less likely to become unemployed than less educated workers. However, the admission of so many students of only average ability to higher education inevitably requires a decline in academic standards, facilitated by grade inflation. Also, the supply of graduates in many fields of study is exceeding the demand for their skills, which aggravates graduate unemployment, underemployment, credentialism and educational inflation.

2. LITERATURE REVIEW

Trends in higher education prioritization and financing Research focusing on the links between education, development and social change has a long history; this includes research on higher education investment in low-income countries by external and international development agencies (Power, Millington and Bengtsson, 2015). Analysis of the impact on society of higher education in developing countries emerged alongside post-colonial discourses and modernization theories.

Research generally focused on how higher education could be utilised by governments to train people in the skills necessary for economic growth. Academia in this context was regarded as being irrelevant to local communities. Vocational training was largely left up to public programmes (Thomson, 2008). At this time, higher education aid focused primarily on providing graduate training in donor countries (Varghese, 2010). In the post-independence period, a significant investment in higher education was made by both domestic and external sources (Oketch, McCowan and Schendel, 2014).

The late 1980s and early 1990s saw higher education lose popularity due to a failure to produce expected results and a lack of engagement on local, national and regional issues. Also rates of return for higher education were regarded as low compared to other levels of education. This resulted in less research being focused on higher education in developing countries, and a degradation of established institutes (Thomson, 2008). This decline in support for higher education can be attributed to criticisms of brain drain, mounting unemployment and the emerging priority of Education for All programs (Varghese, 2010). The waning of interest in higher education caused a crisis of quality in many systems across the developing world (Oketch, McCowan and Schendel, 2014).

In the 1990s, influenced by the focus of the 1990 World Conference on Education for All in Jomtien, donors focused on trying to universalize primary education. Higher education was on the periphery of the agenda (Power, Millington and Bengtsson, 2015). Zeleza (2003: 149) argues that as the “development” university of the 1960s and 1970s shifted to the “market” university of the 1980s and 1990s, threats to academic freedom became less political and more economic. Despite the shifting landscape, African universities and intellectuals face challenges to academic freedom as they confront old and new pressures from globalisation, governments, and the general public. de-Graft Aikins (2008) contends that African universities are in crisis. After being badly hit by the region's socio-political and economic crises of the 1970s and 1980s, they now face dwindling funding for academic resources and research, challenges around scholarships, a rise in university student enrolment and brain drain. Other challenges include low productivity, low engagement in global academic discourses, poor or misguided leadership, increased dependence on external sources of funding and a growing inability to set their own research agendas.

Evidence suggests that higher education aid is now concentrated in selected countries with expanded higher education systems, or is fragmented and spread too thinly mostly in countries with less expanded higher education systems. Varghese (2010) argues that future aid would be best directed at supporting the higher education sector in implementing national policies and institute-wide improvements, instead of focusing on selected faculties for targeted intervention. Staff in African universities face many

challenges, including heavy teaching load, low wages and rising enrolment without an accompanying increase in funds. The situation is unsustainable. It also restricts the capacity of staff members to get involved in projects outside of their day jobs. Many schemes do not fund staff time. This keeps proposal costs down, but hampers effectiveness. This problem is acutely felt by poorer African higher education institutes.

Although many funding schemes are designed to strengthen capacity, they often focus on the short term and are unsustainable (Wanni, Hinz and Day, 2010). The 2000s saw progress towards the education for all target. There was also an increase in demand for skilled labour, which required an expansion of education at all levels. Higher education became regarded as a vital asset to the global community and for national development. Today, donors are investing in both primary and post-secondary education, with a renewed emphasis on investing in higher education (Power, Millington and Bengtsson, 2015). Although since the 2000s, the dominant rhetoric has been achieving universal access to primary education, higher education is actually the largest recipient of aid. In the 1990s, primary and higher education received on average about one-third and one-fifth of education aid budgets respectively. By the 2000s, higher education and post-secondary technical and managerial training received about 37 percent of education aid budgets, against the 30 percent allocated to primary and pre-school education.

This increase in education, and in particular aid focused on primary and higher education, has included funding from non-traditional donor countries, including Brazil, Chile, China, India, Mexico, Qatar, Russia, and South Africa. New actors, including non-governmental organizations and global initiatives have provided financial resources, technical assistance, and delivery of educational services in deprived communities. These new actors are competing with traditional donors to influence domestic education policies (Niño-Zarazúa, 2016). In recent years higher education has regained prominence in the development agenda. As well as being regarded as important to social and economic development, higher education is now being linked to environmental awareness and sustainability, post-conflict resolution, poverty alleviation, upholding human rights, addressing health care issues, and cultural preservation or change (Thomson, 2008). There is also emerging research on the links between higher education, good governance and developmental leadership (Brannelly, Lewis and Ndaruhutse, 2011a; Jones, Jones and Ndaruhutse, 2014). As the global ‘knowledge economy’ emerges, a renewed interest in higher education has been stimulated. This has led to reform and revitalisation efforts, as well as new research into the impact of investing in higher education on economic growth and development (Oketch, McCowan and Schendel, 2014). This includes funds for higher education scholarships which are often spent in donor countries.

Specifically, the work of Murenzi and Hughes (2006) states that strategies need to be undertaken to reverse the decline of Africa's share of world trade. Higher education that focuses on the development of national science and technological innovative and entrepreneurship skills can lead to growth and development. A case study of Rwandais presented, where policies and strategies have been implemented to develop knowledge transfer and innovation. The aim isto stimulate and develop the national economy. The private sector will be encouraged as an engine of growth. In the age of globalised processes, higher education institutes, and universities in particular, are considered to be the progenitors of social change through the generation and dissemination of knowledge and new ideas(Thomson, 2008). Rates of return analysis and how these have influenced higher education funding. As outlined above, the 1990s signalled the start of a big change in the focus of external financing for education with donors adopting an economic lens through which they looked at the value of providing financial support to different education sub-sectors. This was influenced by a journal article by a leading World Bank staff member on rates of return to education (Psacharopoulos, 1985) which stated that the economic rates of return to primary education were much higher than those for higher education. This resulted in a view that investment in higher education was regressive; investment in primary education was thus seen as being more socially equitable. Coupled with concerns about brain drain and the focus on primary education from Jomtien, this influenced changes in donor financing allocations, led initially by the World Bank, but then followed by other donors. "The World Bank drew the conclusion that its lending strategy should emphasize primary education, relegating higher education to a relatively minor place on its development agenda." (The Task Force on Higher Education and Society, 2000: 39).

Analysing the World Bank's financing of higher education, we see that between 1990 and 1994, it averaged US\$103 million and this dropped to an average of US\$30.8 million during 1995 to 1999 (World Bank, 2009). In percentage terms, from 1985 to1989, the World Bank allocated around 17 percent of its education budget to higher education and this dropped to only 7 percent between 1995 and 1999 as a result of the increasing prioritization of primary education after Jomtien (Bloom, Canning and Chan, 2005).

3. OBJECTIVES OF THE STUDY

1. To know the educational sector in India (pre and post)
2. To know the statistics of educational sector
3. To know how the education in future

Pre independence

We achieved our long cherished independence in 1947. This gave a tremendous impetus and fullest opportunity to mould the educational policy according to the needs of the nation in the fast changing times. The post-war period had witnessed a considerable progress in the sphere of higher education in

India. The expansion of secondary education automatically led to the expansion of university education. At the time of partition of the country in 1947, Indian union had 19 universities in all. For bringing about certain reformations in the system of university education a Commission was appointed in the year 1948, under the chairmanship of Dr. Radhakrishnan. The commission gave valuable recommendations keeping in view the needs of the independent India.

Regarding the functions of the universities in the modern world the Commission suggested following objectives:

(i) To seek and cultivate new knowledge vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and benefits in the light of new needs and discoveries;

(ii) To provide the right kind of leadership in all walks of life, to identify gifted youth and help them to develop their potentiality to the full by cultivating physical fitness, developing the powers of the mind and cultivating right interest, attitude, moral, and intellectual values;

(iii) To provide society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professions, who will also be cultivated individuals imbued with a sense of social purpose ;

(iv) To strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education;

(v) To foster in the teachers and students and through them in the society in general the attitudes and values needed for developing the 'good life' in individuals and society. Keeping in view these objectives, the Commission has made a number of valuable suggestions for the improvement of higher education.

Expansion of facilities:

According to Commission the expansion of facilities in higher education should be planned broadly in relation to man-power needs and employment opportunities. Side by side with the increase of enrolments in undergraduate and post-graduate course, the facilities in professional courses such as agriculture, engineering or medicine will have to be specially expanded.

Selective Admission:

Since the demand for higher education will be such larger than the provision that can be made for it or is needed on the basis of man-power needs a system of selective admissions will have to be adopted.

Part-time Education:

Opportunities for par-time education (correspondence courses, evening colleges) should be extended widely and should include courses in science and technology.

College Size:

The general policy should be to encourage the establishment of bigger institutions which tend to be more efficient and economic. A college should normally have a minimum enrolment of 500 and it would be preferable to raise it to 1000 or more in as many colleges as possible.

Post-graduate Education and Research:

Postgraduate education and research work should ordinarily be organised in the universities or in university centers, where a good programme can be developed co-operatively by a group of local colleges.

Education of Women:

The proportion of women students in higher education should be increased from 1 : 4 to about 1 : 3 to meet the requirements for educated women in different fields. For this purpose, separate women college at the under-graduate stage should be established. A programme of scholarships and provision of suitable but economical hostel accommodation should be developed.

New Universities:

The establishment of a new university can be justified only if it leads to a substantial improvement in standards and in the output and level of research.

Inter-University Collaboration:

Universities should join together at the regional and national levels, in cooperative programmes and supplement mutually their available facilities, especially in research. It should be the special responsibility of the U.G.C. to promote collaborative and co-operative programmes which cut across state, regional and linguistic frontiers.

Re-organisation of Courses:

The combination of subjects permissible for the first degree should also be more elastic than at present, both in the arts and in the sciences. It should not be linked too rigidly to the subjects studied at school.

4. POST INDEPENDENCE

Higher education is presumed as education beyond the school level. Higher education includes undergraduate, postgraduate, M.Phil, Ph.D, engineering and medical and other professional courses. Higher education can be further classified as technical and non-technical education. Place of higher education is a university or a college or an institute. After passing or completion of the Higher Secondary Examination (the Standard 12 examination), students may enroll in general degree programmes such as bachelor's degree in arts, commerce or science, or professional degree programme such as engineering, law or medicine.

India's higher education system is the third largest in the world, after China and the United States. Under Ministry of MHRD, higher education in India is governed by bodies such as UGC, AICTE, DEC (Distance Education Council) and CoA (Council of Architecture). Faculties like medicine, veterinary, and law have their own regulatory bodies namely MCI (Medical Council of India), VCI (Veterinary Council of India), BCI (Bar Council of India), DCI (Dental Council of India), INC (Indian Nursing Council), PCI (Pharmacy Council of India), Central Council of Homeopathy, Central Council of Indian Medicine and Rehabilitation Council of India. Whereas there is no regulatory body of statutory nature available for agriculture education, the Indian Council of Agriculture Research, (ICAR) supervises the same. Besides these bodies, many state government have their own regulatory structure such as State Council of Higher Education.

University Grants Commission (UGC) is an Autonomous Body which governs general education system in colleges and universities. UGC enforces its standards, advises the government, and coordinate between the centre and the state. The institutions carrying out technical education (i.e. engineering and management studies) also needs to comply with operational norms specified under All India Council for Technical Education (AICTE) and Medical Council of India (MCI) for medical education.

Institutions of Higher Education in India

The institutions of higher learning in India fall into the following broad categories:

- 1. Universities:** These are established by an Act of Parliament or State Legislature and are of unitary or affiliating type. They are called Central Universities and State Universities respectively.
- 2. Deemed to be Universities:** These institutions are given deemed to be university status by the Central Government on the recommendation of the UGC in terms of Section 3 of the UGC Act. Some of these institutions offer advanced level courses in a particular field or specialization while others award general degrees.
- 3. Private Universities:** These are established by various State governments through their own legislation.
- 4. Institutes of National Importance:** These Institutes are declared as such by the Government of India by an Act of Parliament and are empowered to award degrees. In some cases, such Institutes are also set up by the Government through an Act of State Legislation.
- 5. Premier Institutes of Management:** These are the Institutes that have been set up by the Central Government and are outside the formal university system.

They offer Post-Graduate Diploma Programmes which are equivalent to Master's Degree Programmes in area of management.

5. FUTURE ASPECTS

India Is A Country On The rise, and the trajectory has been set for it to get a seat among the major powers of the world. In every sector, the country has time and again shown to be a reliable player. Whether we look at the automobile industry or e-commerce, industries have witnessed tremendous advancements in the recent past. In this new age of innovation, India needs to strengthen its foundations to continue the success it is currently enjoying. One of the core foundations that India needs to improve is its education sector. It has a population of 1.21 billion with 315 million students. When we take a closer look at the disparity between the number of eligible students and the ones who are currently perusing higher education, the figures are discouraging. Higher education institutions seem to have failed to inspire students to pursue further studies. The education system has fallen short of finding effective avenues to draw a picture of how beneficial higher education could be to climb the ladder in the Indian society.

The Indian education system is moving in the right direction but it needs a push. The education fraternity needs to collaborate with thought leaders and industry experts to form new strategies that can uplift the education system from its traditional roots to a new era of excellence. There are many ways to accomplish this task, but it needs to be a community effort, with all stakeholders participating to conceptualise a blueprint that redefines education in India. There are a few ways to achieve this objective, but few crucial steps need to be the bedrock of this new system.

6. HIGHLIGHTING THE IMPORTANCE OF NON-STEM EDUCATION

The Indian educational landscape is evolving rapidly and has been for a long time. This is very clear in many areas but it is never more significant than the rise in prominence of non-STEM education. It is an open secret that the Indian public has long favoured STEM subjects as the only legitimate course to a successful career path, but this has changed in the past decade. More and more students are opting for non-STEM subjects, choosing to complete their masters in design, arts, liberal arts, liberal education, humanities, social sciences, architecture, media and communication, and economics among others. It paints a bright future for an Indian education system that is not fixated on a future that only caters to STEM education. A latest research has shown that non-STEM courses have a high placement percentage in hotel management, applied arts and crafts. Indian education system will finally focus on creating skilled individuals who can lead the tide of change in all spheres of life.

7. IMPLEMENTING TECHNOLOGY TO SUIT THE PEDAGOGY

One of the main aspects of utilising technology in education is to understand how it fits within a structure of the entire education model. When new technology is used in the

primitive classroom model, it may spell disaster for the whole education system. If an institute has all the latest equipment and gadgets, but the technology does not contribute to enriching learning experience, it's not a worthwhile investment. Implementing technology in pedagogy can only be possible if the new educational model is re-structured around an interactive and dynamic environment that technology can provide. Teaching style plays a crucial role in making technology relevant in the classroom. Education technology that has been implemented needs to apply to what the learners require and within their preferred styles.

8. STUDENT FEEDBACK IS A VITAL METHOD FOR A BETTER LEARNING EXPERIENCE

Educators around the world have assumed that they have all the answers when it comes to education policies and knowledge application techniques. Slowly they have realised the flaw in the system. During the process of implementing, few key players are left out of the equation, mainly students real-time changes. Acquiring feedback from students has a long list of advantages for education institutions. Few institutions have taken the first step of implementing robust technology to get student feedback in real time and make the necessary changes, hence keeping them ahead of the curve.

9. A PROMISING FUTURE ON THE HORIZON FOR THE YOUTH OF THE NATION

At this juncture, we have the unique opportunity to make a difference and inspire a new generation of young minds. We need to move away from rewarding rote learning and replace it with a new system that encourages high expectations for success while celebrates individual differences and learning styles. With the emergence of new-age schools, it has become a real possibility in India. The country has begun to explore the benefits of new pedagogical approaches, assisted by digital technologies. It is a process that has yielded many results and transformed today's learning environments. Schools that do not follow the traditional curriculum have been more effective in meeting community expectations and managing educational resources more efficiently.

10. CONCLUSIONS

Higher Education is the important tools of overall development of a country or a nation. It is important tools for processing work force into useful human resource. Productive human resource in each field becomes useful for national development in economically, technology and engineering, deface, space technology, medical science, tourism etc. In this context role of educational institutions for Higher Education and various governing agencies of higher education are very important. Collectively, governing agencies of higher education, Central Government and State Government have to play possessive role in the interest of national building and Make in India programme. At present, student behaviour and mindset in higher educational institution is objectionable. Governing agencies of higher education have to locate the loopholes

where something is wrong in our system and it required to repair immediately. Even our universities could not find place in world ranking within two hundred after third largest education system in world. Our research and developmental work should be as per the parameter as specified for world ranking. Teaching staff have to make more accountable for research and developmental work, for moulding student in right direction for nation development and not to do part time politics. All above findings and suggestions are useful for better tomorrow. Government and other concerned agencies must focus finding and suggestion of this paper.

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Indian Education System: Challenges and Suggestions

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Abstract: Education system plays an important role for the country's overall development. Education is the most important component out of various components of social infrastructure. The well educated and properly trained manpower can accelerate the pace of economic development. There was a time when India was considered as the pioneer of education. Our country was considered as the one of the most important centre of education. The irony is that the country which was considered as the education centre now considered as one of the backward country when it comes on education. Numerous problems are responsible for the drastic condition of education system in India. We need to recognize that the knowledge, skills and productivity of our growing young and dynamic work force forms the backbone of our economy. This paper includes the key challenges that India is currently facing in education system and also includes suggestions to meet those challenges.

Keywords: Education system, overall development, challenges, economic development, skills.

1. INTRODUCTION

“Plants are shaped by cultivation and humans by education”

Jean Jacques Rousseau

The economic growth of the nation not only depends on natural resources, technology and capital but primarily on the quantity and quality of manpower. By quality of manpower, we mean the efficiency and productivity of work force. The efficiency of the manpower depends on many vital factors like health and nutrition, education and training, housing facilities, safe drinking water and sanitation. These are considered as important determinants of quality of life. Adequate investment in these fields will increase the productivity and efficiency of the manpower. Economists call it ‘human capital formation’. By human capital we mean “the body of knowledge attained by the population and capacity of the population to use the knowledge effectively”. Education is the most important component out of various components of social infrastructure. The well educated and properly trained manpower can accelerate the pace of economic development. The famous philosopher Einstein while discussing the need for education has projected the following fundamentals:

a. To educate the individual as a free individual; to understand and use critical thinking skills.

b. To educate the individual as a part of society – virtually all our knowledge, our clothes, our food is produced by others in our society, thus, we owe Society and have responsibility to contribute back to Society.

c. Through education, knowledge must continually be renewed by ceaseless effort, if it is not to be lost. It resembles a statue of marble which stands in the desert and is continually threatened with burial by the shifting sand. The hands of service must ever be at work, in order that the marble continue to lastingly shine in the sun.

2. OBJECTIVES OF THE STUDY

In the light of the above mentioned background following specific objectives are framed to present this macro level study.

- To understand the status of Indian education system.
- To highlight the issues and challenges faced by the education system in India.
- To suggest measures to overcome the problem.

3. METHODOLOGY

The present paper is a macro level and descriptive study in nature, based on secondary data collected from the published records, reports and contributions of several institutions, organizations and individuals in India. As these secondary sources have obvious limitations of sampling and dimensional studies, the present study could only be a macro analysis of education system in the country as a whole.

4. INDIAN EDUCATIONAL SYSTEM – ISSUES AND CHALLENGES

If we look back in history then we will find that there was a time when India was considered as the pioneer of education. This country was considered as the one of the most important centre of education. People from all over the world come to here to study in Nalanda University. The Nalanda University was listed among the best and the most reputed universities of the world at that time. But with the changing time things have very much change till time. The irony is that the country which was considered as the education centre now considered as one of the backward country when it comes on education. Numerous problems responsible for the drastic condition of education system in India.

Indian education system is widely criticized in multi-dimensions for its failure to create required employability in its

students according to the industry requirements and its inability to contribute to inclusive growth in the nation as a whole. Following are some critical issues faced by our education system:

- **Lack of Quality Education:** Though Right To Education (RTE) Act, 86th Amendment Act, Article 21A of Fundamental Rights provide free and compulsory education to all the children aging between 6 to 14 years but the initiative fails to provide adequate infrastructure and quality of education as promised. In India, there is a huge craving for education, but quality education is not accessible to all of them.
- **Corruption in Education:** Corruption affects the access and quality of education. Corruption in the education sector can be defined as “the systematic use of public office for private benefit, whose impact is significant on the availability and quality of educational goods and services, and, has impact on access, quality or equity in education” (Hallak and Poisson, 2002).
- **No proper Value Education:** Holistic development of an individual is incomplete if moral values are ignored. Lack of moral values is the prime cause of unrest amongst youth. Educational institutions play a significant role in the promotion of moral values amongst students. Value Education awakens curiosity, development of proper interests, attitudes, values and capacity to think and judge about oneself.
- **Lack of Female Education:** Female population is still considered as second-class citizen in many parts of the country. Access to tools enabling a healthy life – education, health, and wealth – for a female is disproportionate to males and upheld as a part of the ‘traditional’ society.
- **Lack of Education Infrastructure:** Education infrastructure includes suitable spaces to learn. Sufficient space per child, construction methods that ensure the safety of students, adequate separate hygienic facilities for male and female students and for staff, electricity and internet connectivity are some of the attributes of adequate infrastructure.
- **Curriculum Issues:** Today’s world is altogether different from that of fifty years ago. And the pace of change is accelerating, with increasing globalization; growth in technology, communications and social networking; increased access to information; an explosion of knowledge. The world of work also is undergoing rapid change with greater workforce mobility, growth in knowledge-based work, the emergence of multi-disciplinary work teams engaged in innovation and problem solving, and a much greater requirement for continual workplace learning. The curriculum must attempt to equip the students for this significantly changed and changing world.
- **Lack of Funds:** The lack of sufficient funds is the main problem in the development of education. Due to

insufficient funds schools and most educational institutions lack infrastructure, science equipment and libraries etc. Due to this reason, desired results cannot be achieved.

- **Expensive Higher Education:** University, professional and technical education has become costly in India. Fee structure of technical and professional institutes is quite high. It is beyond the reach of common man. Privatization of higher education has led to the growth of profit hungry entrepreneurs. Now a day’s higher education is much costly affair.

5. SOLUTIONS

Conventionally, education has been understood as preparation for life, as personal realization, and as an essential element in progress and social change, in accordance with changing needs (Chitty, 2002). Orr (2004) declares that if certain precautions are not taken, education may equip people to become “more effective vandals of the earth”. He describes education of the sort we have seen thus far as a possible problem, and argues for a new type of education.

India must build human capital to reap the demographic dividend and, more important, compete in knowledge intensive global economy. The education sector is in dire need of new thinking and complementing radical steps. Following are some solutions for improving the quality of education:

- **Adoption of Technology:** There is a need to research and develop ways to use technology to drive the change we desire. ICT-based remediation programmes should be encouraged to achieve the *vision of being a world leader*.
- **Public Private Partnership (PPP) Model:** The regulatory mechanism in our country restricts private intervention as education is a “not-for-profit” field. This leads to loss of opportunity for public-private collaboration. Countries like the United States, Canada, England, Germany and Australia, have Charter schools, which are funded by the government but run by private bodies and they maintain the highest standards of accountability. A similar system could potentially revolutionize the Indian education space.
- **Vocational Courses/Education:** Vocational education refers to a course of study which prepares individuals for job. Vocational education is a training that equips the students with practical experience and technical skills in a specific type of field. It is non academic in nature.
- **Effective Education Law:** Right to education is a historic movement by government but it has not been able to achieve solid results. In order to make it success, we need to incorporate some changes to determine its effectiveness.
- **Professional Status of Teaching:** Teaching is not considered as one of the most sought after career in India; hence the primary challenge is to raise the status of teaching as a career choice. This stems from the general perception that people harbor about this profession which is, that anyone can become a teacher as it takes minimal skill and is nothing but glorified baby-sitting.

- **Professional Development and Teacher's Needs:** Education sector is a very dynamic industry. A good teacher needs to be constantly updated with the best practices practiced across the world. This means reevaluating and reflecting one's pedagogical skills by adopting rigorous study, practice and self – improvement.
- **Reward Creativity and Original Thinking:** Our education system rarely rewards what deserves highest academic accolades. Deviance is discouraged. Risk taking is mocked. Our testing and marking systems need to be built to recognize original contributions, in form of creativity, problem solving, valuable original research and innovation.
- **Implement massive Technology Infrastructure for Education:** India needs to embrace internet and technology if it has to teach all of its huge population, the majority of which is located in remote villages. Now that we have computers and internet, it makes sense to invest in technological infrastructure that will make access to knowledge easier than ever. Instead of focusing on outdated models of brick and mortar colleges and universities, we need to create educational delivery mechanisms that can actually take the wealth of human knowledge to the masses. The tools for this dissemination will be cheap smart -phones, tablets and computers with high speed internet connection. While all these are becoming more possible than ever before, there is lot of innovation yet to take place in this space.
- **Re-define the Purpose of the Education System:** Our education system is still a colonial education system geared towards generating babus and pen-pushers under the newly acquired skin of modernity. We may have the most number of engineering graduates in the world, but that certainly has not translated into much technological innovation here. Rather, we are busy running the call centres of the rest of the world – that is where our engineering skills end. The goal of our new education system should be to create entrepreneurs, innovators, artists, scientists, thinkers and writers who can establish the foundation of knowledge based economy rather than the low-quality service provider nation that we are turning into.
- **Making Education Affordable** – If we want education to reach all deserving students, it has to be made affordable. The fee structure in government sponsored / owned institutions are inexpensive in India. However, this is not the case in some of the private sector institutions due to which the fees are beyond the capacity of poor and deserving students. To solve this issue, the educators have to keep in mind that education should not become prohibitively expensive and ensure that no deserving candidate is denied admission due to the lack of financial resources.

6. CONCLUSION

To sum up, we need to recognize that the knowledge, skills and productivity of our growing young and dynamic work force forms the backbone of our economy. To reap the benefits of such a young work force, we need to implement the reforms in the education system and also bring forth new factors of production, namely knowledge, skills and technology which have the ability to unleash the productive frontiers of the economy in the most efficient and dynamic way. Besides, taking a leaf from the western hemisphere, India should try to become “knowledge economy” to promote inclusive growth. To improve the education system we need to improve teaching pedagogy, build synergies between research and teaching and facilitate alliance of higher institutions among themselves, research centers and industries. This is necessary not only to take care of economic growth, but it is also essential for social cohesion and to empower the country's youth. Investment in education and educational institutions should be viewed as an investment for economic prosperity.

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Factors Affecting Impulsive Buying Behaviour

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Abstract: *In the present scenario, new retailers have entered in the Indian market. The market is flooded with shopping malls and retail outlets. This has led to shopping convenience for consumers. Some retail formats also provide 24 by 7 services for their customers. They also provide special offers, discounts and other cash back schemes to counter the growing competition. Growing liberalization, higher disposable income of consumers, growing fashion orientation, easy credit policies, loyalty programs, sales promotion techniques have all led to impulse buying. Impulse buying can be defined as unplanned, sudden, and spontaneous impulse to buy, which lacks careful evaluation of product and purchase consequences. (Kollat and Willet, 1967; Cobb & Hoyer, 1986; Rook, 1987). The broad purpose of the paper is to explore the field of impulsive buying behavior through extensive review. The paper will also provide directions to researchers in pursuing impulse buying behavior related studies.*

Keywords: *Impulse buying, consumer behaviour, retail, tendencies*

1. INTRODUCTION

New retailers have entered into the market. The market is flooded with shopping malls and retail outlets. This has led to shopping convenience for consumers. Some retail formats also provide 24 by 7 services for their customers. They also provide special offers, discounts and other cash back schemes to counter the growing competition. Growing liberalization, higher disposable income of consumers, growing fashion orientation, easy credit policies, loyalty programs, sales promotion techniques have all led to impulse buying.

Impulse buying can be characterized as impromptu, abrupt, and unconstrained drive to purchase, which needs cautious assessment of item and buy outcomes (Kollat and Willet, 1967; Cobb & Hoyer, 1986; Rook, 1987). Impulse buying has been defined as a spontaneous, immediate purchase without pre-shopping intentions either to buy a specific product category or to fulfill a specific buying task (Beatty & Ferrell, 1998). The impulse buying behavior occurs after experiencing an urge to buy and tends to be spontaneous without a lot of reflection (Beatty & Ferrell, 1998). Since impulse buyers are not actively looking for a certain product and don't have prior plans or intention to make a purchase (Beatty & Ferrell, 1998; Weun, Jones, & Beatty, 1998), internal states and environmental/external factors can serve as cues to trigger their impulse behavior.

Impulse purchasing happens when a customer encounters an abrupt incredible and diligent desire to purchase something immediately. Impulse buying is defined as a buying act commenced without any previous problem and no intention to purchase but purchased decision took place after entering into the store/retail outlets. A drive buy is an impromptu choice to purchase an item or administration made just before a buy one who will in general make such buys is alluded to as a motivation buyer or motivation purchaser. Research revelations recommend that emotions and feelings accept a convincing activity in acquiring initiated by watching the thing or upon introduction to a particularly made restricted time message. Impulsive purchases occur whenever customers experience an unexpected incentive to buy something without delay without extra evaluation and act based on the urge. Impulse buying makes up a subject of great profitability for marketers. It is proved that consumer behaviors are influenced by internal and external stimuli. Internal factors refer to such internal states and characteristics of individuals including person's emotional state, mood and self-feelings. External or environmental cues are the atmospheric cues in shopping environment and marketing mix stimuli. Previous researches have proved that factors like in-store form display, visual merchandising, promotional and economic effect (coupons and cheaper prices) can encourage people to buy without any pre-shopping intention. A research in Iran showed that Iranian shoppers give attention to visual communication and visual merchandising. As indicated by Muruganatham and Bhakat, motivation purchasing is a demonstration attempted without beforehand having been consciously perceived or a purchasing goal shaped preceding entering the store. This phenomenon is defined as more stimulating, less planned as compared to the intended purchasing behavior.

2. IMPULSE BUYING TENDENCY

Rook (1987) defined impulse buying tendencies as an overwhelming force and intense feeling of the need for the product immediately. It is a tendency to buy spontaneously which is aroused as an emotional reaction. It is a strong urge to buy the product immediately without much rational evaluation.

After understanding the phenomenon of impulse buying, it becomes empirical to find out whether people do impulse buying? What factors make them to impulse buying? Is there any product category which can be considered as more impulsive than the other? What happens after the consumer has made an impulse purchase? Do they feel any kind of post purchase dissonance and if yes then how they rationalize their

behavior? To answer all these questions a detailed review of literature has been undertaken.

3. IMPULSE BUYING: AN UNDERSTANDING

Rook (1987) defined the concept of consumer impulsion as a lifestyle trait in which materialism; sensation seeking and recreational aspects of shopping can be included. Iyer (1989) defined impulse buying as a special case of unplanned buying.

Piron (1991) defined impulse purchase as an unintended purchase which is decided at a time due to outward motivation that involves either cognitive or emotional reaction. Rook and Gardner (1993) defined impulse buying as an unplanned purchase that effects the decision-making and leads to immediate possession.

Rook and Fisher (1995) concluded impulsiveness as a personality trait and defined as consumer's tendency to buy spontaneously and immediately. The consumer doesn't have any pre-shopping intentions to buy the product. Bayley and Nancarrow (1998) defined that impulse buying behavior is a complex buying process and the rapid decision process during shopping which prevents the consumer from deliberate consideration of alternative information and choices.

Stern (1962) categorized impulse buying behavior into four types including pure impulse buying, reminder impulse buying, suggestion impulse buying and planned impulse buying. Pure impulse buying is recognized as a novelty purchase. In reminder impulse buying any external factor can trigger the purchase. The consumer sees the item and recalls that he is short of it. Suggestion impulse buying occurs when consumer sees the product and visualizes a need for it. Planned impulse buying is characterized by the purchase decisions based on special offers, discounts, sale and cash back offers etc.

Block and Morwitz (1999) defined impulse purchase in which the consumer feels a powerful urge to buy the item. Kacen and Lee (2002) stated impulsive behavior as irresistible but less deliberative than planned purchase behavior.

Engel and Blackwell (1982) stated that impulse buying is an action undertaken without previously having been consciously recognized or a buying intention formed prior to entering the store

4. FACTORS AFFECTING IMPULSE BUYING BEHAVIOR

Foroughi et al. (2013) studied the impulse buying behavior and factors affecting impulse behavior among Iranian shoppers. The results indicated that person related factors and situational factors have impact upon impulse buying. Meniawy (2012) examined the impact of mood, store lay out and personal characteristics upon impulse buying behavior. The results showed a positive relationship between positive mood, store ambience and impulse buying.

Karbasivar & Yarahmadi (2011) examined the impact of external stimuli such as window display, credit cards and promotional activities on impulse purchases in Iran. The study revealed a positive relationship between the variables.

Verplanken & Herabadi (2001) found extrovert related to an impulse buying tendency. Lou (2005) conducted a survey with 225 shoppers at shopping malls to investigate the relationship between innovativeness and impulse buying. The study found innovators had high impulse buying tendencies.

Xu (2007) studied the impact of store environments of impulse buying behavior of generation -Y using S-O- R model. The results indicated that store environment had a positive impact on emotional state which in turn impact impulse buying.

Park et al. (2006) found that involvement was related to fashion impulse buying tendency from a survey with 217 college students at one metropolitan university. The study concluded that the higher the level of fashion involvement participants had, the higher the fashion impulse buying tendency. Saleem et al. (2012) studied the impact of product involvement, impulse buying, hedonic consumption tendencies on post purchase cognitive dissonance. A hedonic consumption tendency was found to be insignificant in predicting cognitive dissonance whereas product involvement and impulse buying were found to be related to cognitive dissonance.

Omar et al. (2001) studied the impulsive shopping behavior in the context of services such as at the airport. The results concluded that impulsive shopping at the airport was promoted by environmental influences such as exclusive availability of certain products, clean ambience, spacious formats and anonymity and Credit cards.

Tendai and Crispin (2009) found sales promotion tools coupons; vouchers, store display, advertisements and promotions, behaviors of retail encounter and price were play important role in impulsive buying. This paper found the three main factors which affect impulse buying; they were corporate promotions, individual budget and personnel sales promotions.

Mathai & Haridas (2014) studied the impact of different personality traits, situational factors present in the store and promotional factors on impulse buying behavior in Kochin city of India. The result indicated a positive relationship between personality traits and impulse buying. Extroverts were found to buy more impulse. Graa et al. (2014) examined the impact of environmental factors and shopper's emotional states on impulse buying behavior of Algerian Shoppers. The result identified that emotional states of the consumer did not impact the impulse buying.

Mattila & Wirtz (2008) studied the role of store environmental factors and social factors such as perceived crowding and employee friendliness on impulse buying behavior among Singapore consumers. The result showed that perceived crowding and employee friendliness both positively impact

impulse buying behavior. Foroughi et al. (2012) studied the impact of two situational factors namely time available and money available among different ethnics in Malaysia. The results affirmed a positive relationship between these variables.

Clover (1950) in his study pointed out that some product categories can be considered as more impulsive than the others. Kollat and Willett (1967) concluded that consumer's characteristics and demographics influence the impulse purchases.

Dittmar et al. (1996) observed that gender affects impulse buying. The study concluded that Men and women tend to involve in impulse buying of different product categories. Ladies tend to purchase the representative and self-expressive merchandise which are related with their appearance and enthusiastic parts of self.

Weinberg and Gottwald (1982) studied that Impulse buyers show greater emotions such as amusement, enthusiasm, joy and delight when compared to planned buyers. Rook and Hoch (1985) concluded that impulsive shoppers tend to enjoy shopping more and the impulses are result of consumer's sensation and perception driven by the environmental stimulus.

Abratt and Goodey (1990) confirmed that in-store stimuli such as point of purchase displays can increase impulse buying behavior. Han et al. (1991) defined the concept of fashion-oriented impulse for buying the new fashion products. Wood (1998) stated that a socio-economic factor of individuals such as low levels of household income had an impact on impulse buying.

Hausman (2000) suggested that shopping background may support feelings, for example, feeling inspired or invigorated. Shoppers shop not exclusively to purchase however to fulfill their distinctive needs. Youn and Faber (2000) proposed that both positive and negative inclination conditions of shopper are in charge of motivation purchasing.

Kacen and Lee (2002) concluded that cultural forces could impact impulse purchasing of Individuals. Independent people more influence by the having impulse buying. Zhou and Wong (2003) found that retail store attributes like point of purchase may affect the impulse buying.

Jones et al. (2003) in his study confirmed that product-specific impulse buying is affected significantly by product involvement and it is an important factor supporting impulse buying tendencies. Luo (2005) found that the presence of others may affect impulse buying. The results suggested that presence of peers can increase the urge to purchase and that the presence of family members decreases it.

Verplanken et al. (2005) proposed that chronic impulse buying is directly related to positive driving force. Park et al. (2006) studied the hedonic motivation for impulse buying. Hedonic motivation is related with the fashion-related impulse buying.

Fashion related people more prefers the pleasure and enjoyment while buying the products.

Peck and Childers (2006) Discovered that touch expands drive buying as the separation among item and shopper diminishes (vicinity). It has been recommended that purpose of procurement signs, shows, and bundling empowering item contact may build drive buying.

Kaur and Singh (2007) examined the drive purchasing parts of Indian adolescents and found that shopping pleasure and the tactile stimulants impacts motivation purchasing. Silvera et al. (2008) contemplated the effect of feelings and gathered that drive purchasing is impacted by the 'effect' or feelings of the customer.

Dawson and Kim (2009) studied the affective-cognitive aspects and found significant relationship between a person's affective and cognitive state and their online impulse-buying behavior. Harmancioglu et al. (2009) was first to study impulse buying towards the new product. The study discovered that knowledge about the product, excitement towards new products as well as the consumer esteem affect impulse buying behaviour.

Yu and Bastin (2010) hedonic shopping motivation of people lead to impulse purchases. Sharma et al. (2010) concluded that variety seeking individuals are more prone to impulse purchases. Chang et al. (2011) observed that the optimistic responses of consumer to the retail store attributes result in impulsive buying.

Donovan and Rossiter (1982) showed that pleasure and arousal significantly affected the shopping behaviors including time spent in the store, interpersonal interaction qualities, willingness to return, and estimated monetary expenditures. According to the Mehrabian- Russell model, three emotional responses of pleasure displeasure, arousal-non-arousal, and dominance submissiveness mediate people's approach or avoidance reactions to environments.

Baumeister (2002) identified that consumers in a state of ego depletion were found to be more likely to give in to temptation and engage in impulsive purchases. Rook and Fisher (1995) examined the normative influences on impulsive buying behavior via two survey studies across student and retail customer samples. Kwak et al. (2006) confirmed prior findings of the relationship between buying impulsiveness trait and impulsive purchase decisions with the moderating effect of subjective norms within a different cultural context.

Dholakia (2000) concluded that different buying situations lead to different impulse buying behaviors. The influence of three factors such as marketing stimuli, trait impulsivity and situational factors helps in initiating impulse buying behavior that may vary between individuals as well as between different occasions for the same individual. Dittmar et al. (1995) concluded that there is a tendency for consumers to buy impulsively when they are hedonistic and enjoy shopping.

Beatty and Ferrell (1998) suggested that the more time is available, the greater the likelihood that a consumer will make a purchase.

Chen(2001) explored that a customer with a strong tendency toward impulse buying is more likely to make a purchase than one with a weak tendency. Customer self-control on the purchasing the products helps in avoids impulse buying. Age also play an important role in determinant in predicting impulse buying in that younger people face fewer risks when spending money (Bellenger et al. 1978). Several researchers have studied the effect of gender on impulse buying and the main finding of these studies is that women tend to be more impulsive than men (e.g., Dittmar et al. 1995). Culture has an influence on impulse buying both at the regional and individual levels (Kacen and Lee 2002). An individual's emotional state of mind or attitude has been found to be an important determinant of impulse buying, if an individual is in a good mood, he or she tends to impulsive behaviour. Different individuals affected by different variables towards buying behaviour. Most significant is shopping enjoyment, whereby some considerate it as a form of recreation (Bellenger and Korgaonkar 1980). Some of individuals do not depend on buying list, they prefer the impulsive purchases (Beatty and Ferrell 1998). Another important individual variable is a consumer's impulse buying tendency, which determines an individual's propensity to buy impulsively (Rook 1987). Several researchers have tested and found support for the relationship between the consumer trait and impulse buying (Beatty and Ferrell 1998). The premise of the concept of self-discrepancy is that there are discrepancies between how an individual sees his or her self (the actual self) and how he or she would ideally wish to be (the ideal self) (Higgins 1987). Therefore, an individual who perceives that there is a discrepancy between his or her actual self and his or her ideal self and who is prone to use material goods to compensate for this discrepancy should have excessive buying tendencies (Dittmar et al. 1996). The store layout has been found to be an important determinant of unplanned purchases (Iyer 1989). In general, marketers should promote a good store layout to maximize the convenience of the consumer (Crawford and Melewar 2003). Related to this notion of the store layout, the presence of a salesperson has been found to help in the impulse buying process (Crawford and Melewar 2003). A well-trained salesperson can decrease frustration by guiding and aiding the consumer in the purchase process. Another technique which is available to the marketer to increase impulse purchases is the manipulation of store atmospherics. The stimulus is presented to the consumer in an enticing way, which may trigger the impulse buying process. Finally, consumers tend to be impulsive in different stores. For example, it has been shown that many impulse purchases result in grocery shops (Iyer and Ahlawat 1987). Situational factors refer to both environmental and personal factors that are present when the consumer makes the impulse purchase (Dholakia 2000). These include the time available, money available, the presence of others, and in-store

browsing. The time a consumer has for shopping determines whether he or she will be impulsive. Time pressure has been found to have a negative effect on impulse buying as the consumer may feel frustrated due to the lack of time to shop or browse (Beatty and Ferrell 1998). The more time an individual has, the longer time he or she will spend browsing the shopping environment. In-store browsing has been found to be an important component of the impulse buying process (Beatty and Ferrell 1998). The availability of money is a facilitator in the impulse buying process (Beatty and Ferrell 1998), since it increases the purchasing power of the individual. If the individual does not have enough money, he or she will avoid the shopping environment altogether. The presence of others can increase the likelihood of an impulse purchase (Luo 2004).

5. DISCUSSION AND IMPLICATIONS:

From the extensive review, it is clear that though there are many international studies on impulse buying behavior and the factors impacting impulse buying behavior yet there have been few studies related to impulse buying behavior in Indian context. Those few studies have also been restricted to one or the variables affecting impulse buying behavior. A comprehensive study on all the variables affecting impulse buying behavior is lacking in Indian literature. Even the sample size in these studies is also very small.

The broad study area related to impulsive buying could be to identify the factors affecting impulsive buying behavior. Some other sub areas that could be explored such as exploring the impulsive buying tendencies of consumers in order to assess whether consumers are impulsive in nature or not and their level of impulsiveness; identifying the factors affecting impulsive buying behavior with a focus on identifying the impact of various internal as well as external factors that are in control of the marketer with a view to help the marketers about how they can control them to induce more impulse buying; and identifying the demographic differences in impulsive buying behavior with a view that how customers with different demographic profile react to different factors affecting impulse buying. These will help the marketers in segmenting their customer base and devise different strategies to different customer group. Such study has implications for retailers and marketers as they will get to know which factors lead to impulse buying. Marketers can use those triggers in their marketing strategies so as to affect consumer behavior. The demographic differences in impulsive buying tendencies can be used as segmentation variables will help in devising different strategies for different set of consumers. The study will also help consumer in understanding and dealing with their impulse buying behavior.

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Mass-Media and Peace-Education

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Abstract: *The mass media have extended their reach in what is termed era of globalization, marked by the end of the cold war and collapse of the Soviet Empire. This era of globalization possesses unique features differentiating it from the former era of internationalism or imperialism which had shaped the world. The trade, cultural, political, and social or communication role of globalization in linking the relations and nations of the world is crucial and this has been facilitated by communication. This emphasizes the role of media in the process of cultural or socio-political change.*

In this paper is based on research that relates to the media in general and the press in particular, it explores globalization from this perspective. The assumption is that globalization promotes harmony and understanding- as envisage in McLuhan's concept of the, global village'.

Keyword: *Communication Globalization& Internationalism*

1. INTRODUCTION

However, the global era is also characterized by the amount of conflict and war, whether local, regional, or international. The media can be for and against conflict sometimes, in Sudan my home country the media played a great role in the 1990s in mobilizing public and contributing them to war and conflict by media specially the TV which produced a weekly programme called in redemption arena or to scarification, this programme make the fighting in the south a holy and made it Jihad that made all people support it and involved. Whereas the first step after the peace agreement the government stopped the programme and the media produced new programmes which can support peace building and decrease the conflict's reasons. Also the example from the case of Darfur can clearly show how media is powerful and how it can breeds many reactions nationally or internationally, in 2004 after one year of the conflict breakdown, the New York Times columnist published an article about Darfur with some photos and that was the beginning of the save Darfur form which played a great role in internationalization the conflict. History has shown that the media can incite people toward violence. Hitler used the media to create an entire world view of hatred for Jews, homosexuals, and other minority groups. Rwanda's radio RTLM urged listeners to pick up machetes and take to the streets to kill what they called 'the cockroaches.' Broadcasters in the Balkans polarized local communities to the point where violence

became an acceptable tool for addressing grievances. The media's impact on the escalation of conflict is more widely recognized than the media's impact on peace-building in Education. Yet it is not uncommon to hear experts pronounce that the media's impact on peace-building must be significant given its powerful impact on conflict. Information is power and insight can impact on public discourse. This way, perceptions can be changed by access to media. Different types of media are utilized globally to distribute knowledge and idealistically, free mass media is a tool of and signpost for democracy. Freedom of expression is not only the core of a healthy media but also a fundamental human right and vital for a democratic structure. It stands for freedom of speech, the right to information and the representation of different opinions in a heterogeneous society. The transmission of ideas is also not limited to conventional media such as newspapers, TV or radio. Arguably, the traditional media takes primacy in this, however, new technologies, the internet and digital content should also be considered in this context. Information is power and insight can impact on public discourse. This way, perceptions can be changed by access to media. Different types of media are utilized globally to distribute knowledge and idealistically, free mass media is a tool of and signpost for democracy. Freedom of expression is not only the core of a healthy media but also a fundamental human right and vital for a democratic structure. It stands for freedom of speech, the right to information and the representation of different opinions in a heterogeneous society. In any culture of prevention, effective and democratic media are an essential part and indispensable for societies trying to make a transition towards peace and democracy. Harry S. Truman once said "You can never get all the facts from just one newspaper, and unless you have all the facts, you cannot make proper judgments about what is going on this statement reflects the need for free access to unbiased information. Not giving people the possibility of political participation and not allowing them to express themselves freely is a significant cause of conflict. On the one hand free, independent and pluralistic media provide a platform for debate and different opinions. On the other hand, media can be misused for propaganda purposes, to incite hatred and spread rumors and therefore artificially create tensions. The transmission of ideas is also not limited to conventional media such as newspapers, TV or radio. Arguably, the traditional media takes primacy in this, however, new technologies, the internet and digital content should also be considered in this context. Lack of

information can, at any stage of a conflict, make people desperate, restless and easy to manipulate. The ability to make informed decisions strengthens societies and fosters economic growth, democratic structures and the positive outlook on the future. For this very reason, the United Nations Millennium Declaration stressed the need “to ensure the freedom of the media to perform their essential role and the right of the public to have access to information”. For the media it can be problematic to find a balance between preventing harm caused by speech and protecting individual expression. Being able to find this balance however is important especially in conflict situations. Responsible journalism does not just re-publish press releases but is truly concerned with a truthful, balanced and fair account of events. In order to achieve this journalists have to stay clear of judgmental representations and describe reality without embellishment. If democracy is to work properly, society needs access to news and information; analysis of the status quo, debate, practical information and exchange as well as entertainment are needed and provided by the media. The definition of conflict and defining conflict areas is not easy and no two places are alike. Journalists need to know what they can expect on sight in order to define the objectives of their project.

2. CONFLICTS AND ITS TYPES

There are different kinds of conflicts, these diversity come from the verity of its causes and locations, so there is the internal conflict which, is between two parties in same country or more, as there is regional conflict that between two neighboring countries and the international one that between more than one countries like the first and second world wars. And as it is an old phenomena which, featured all periods, but it become the post-cold war remarks, as it dominates the contemporary’s political concerns. Conflict is one of the defining features of the modern world. Since the end of the Cold War there have been countless conflicts that have involved the deaths of millions of people and the suffering and displacement of millions more. It is impossible to accurately quantify human suffering due to conflict.’ (Puddephatt, 2006, p.5). This paper will attempt to define and clarify conflict, while highlighting the media’s involvement, and role in reducing conflict. Conflict is an intrinsic and inevitable aspect of social change. It is an expression of the heterogeneity of interests, values and beliefs that arise as new formations generated by social change come up against inherited constraints. But the way we deal with conflict is a matter of habit and choice. It is possible to change habitual responses and exercise intelligent choices’ (Ramsbotham, 2011). Conflict is the term that can be used to describe the clashes and disagreements occurring inside a country, or war between two or more countries. The term, violence, may also be used, as conflict may breed many crimes and violence against civilians, as well as the military. Conflict may take many forms, all of which attract media concern due to its importance, as Barrett argued. ,Some conflicts do not acquire the status of ,war’ in media eyes, though they may be as violent, devastating, and

above all, strategic, as formal military conflict.’ (Allan and Zelizer, 2004) Moreover, there are many types of factors, which cause conflicts, as will be discussed, so are the kinds of conflict?

3. RELIGIOUS CONFLICT

The variety and widespread religious beliefs may sometimes cause conflicts, and could form a source of potential tension. This does not mean that religion is conflictive, but may spark conflict, if people are different in race and ethnicity, where a weak group can use it as a tool with the purpose of gaining power in the political or economic fields. Also, disagreement may arise in a context of religious diversity, if people refuse to accept or choose to ignore others’ faith. ,In virtually every heterogeneous society, this means religious difference in source of conflict, a triggering event that can cause the conflict to escalate and at this stage, tactics often come detached from goals and radical interpretations are increasingly favoured’. (James, 2008) cited in (Brahm, 2005) This type of conflict can be classified as one of the difficult ones to resolve, because it may give extremists the upper hand. Moreover, the two groups will have supporters from co-religionists, and then it may escalate beyond control (Brahm, 2005).

4. SOCIAL CONFLICT

Social conflict refers to: ,the conflict between individuals and groups within society with differing amounts of material and non-material resource with the more powerful groups using their power in order to exploit groups with less power’ (Brahm, 2005) Money, it has been argued, is the main cause of social conflict, as it represents a mechanism in Social Conflict theory. Like the other types, social conflict is one that can become political and breed many resolutions, and may sometimes bring the external intervention. So conflicts represent a top human concern and tension, which put them the top of the media’s agenda. The media represents the mirror that reflects, and provides information on, the conflict. So how media deal with these conflicts?

5. NEWS MEDIA AND CONFLICT

The media role in conflict and war is not straightforward. ‘The media is a double-edged sword. It can be a frightful weapon of violence when it propagates messages of intolerance or disinformation that manipulate public sentiment.’ (Howard, 2002). It has been argued that the media has become a weapon employed in conflicts; for some scholars, it has become an arm used by armies. ,Highlighting the crisis of democracy in the twenty- first century, Douglas Kellner argues that the media have become the ,arms of conservative and corporate interests’...’ (Kumar, 2006). In relation to war the media can be used in different and opposite ways. For instance, in a case of war, the media can select to focus on the destruction of war as opposed to freedom from tyranny, can frame the event as an invasion versus attack, can emphasize the victims versus invaders, and can highlight a positive versus negative attitude toward the war.’ (Dimitrova, et al, 2005). News media in the

era of globalisation benefits from the technological reevaluation and add many elements to its old coverage way which make it more attractive and then full of power, from these elements I can take the photograph's power in printed media, for example during the war every side tend to reflect that the troops are not in danger, as it can play the opposite role by reflecting the miserable face of the civilians or the troop as well as the videos and TV coverage. The horrors of war entered the living

rooms of Americans for the first time during the Vietnam War. For almost a decade in between school, work, and dinners, the American public could watch villages being destroyed, Vietnamese children burning to death, and American body bags being sent home. Though initial coverage generally supported U.S involvement in the war, television news dramatically changed its frame of the war after the Tet Offensive.



Fig. 1. Images of the U.S led massacre

(Figure 1.) at My Lai dominated the television' (McLaughlin) Also it played a great in Darfur conflict and generated the concepts of genocide and ethnic clearings, so after the publication of these photos the concepts spread worldwide.

TABLE 1: Darfur region is known of its tribal conflicts for years, which are mainly for economic reasons, as the table below shows:

S.No.	Tribes in Conflict	Reasons of Conflict	Tool of Resolution	Date of Conflict	Location
1.	Kbabish (Arab), Kwahlla & Barti	On Pasture	The Native Administration	1931	N. State of Darfur
2.	Barti, and Zebadia	Tribal	The Native	1954	N. State of

		Border	Administration		Darfur
3.	Midub, Zeyadia, Kababish	Malha Agreement	The Native Administration	1958	N. State of Darfur
4.	Barti, and Zebadia	Tribal Border	The Native Administration	1962	N. State of Darfur
5.	Mallya(Ar), Rezigat(Ar)	Tribal Conflict	The Native Administration	1961	S. Darfur State
6.	Midub(Ar) ,Kababish(Ar)	Killing and looting	Killing and looting	1963	N. State of Darfur
7.	Zagawa, Zagawa (the same tribe)	Water Resource	The Native Administration	1972	N. State of Darfur
8.	Bani Helpaa (Ar), Rezigat(Ar)	Tribal	The Native Administration	1975	S. Darfur State
9.	Rezigat (Ar), Dinka(Af)	Farmer and Nomads Conflict	Government intervention	1976	S. Darfur State
10.	Taaais (Ar), Salaamat(Ar)	Farmer and Nomads Conflict	Government intervention	1978	S. Darfur State

Source: (Musa, 2010)

As the table above shows there were many conflicts which took place in different periods and with different reasons, and the significant result which will help in understanding the recent conflict and gives it the right definition, is that most of historical conflicts were for economic reasons as there many which were between members of the same tribe like the tribal one that was in 1996 between Zegawa- Zegawa. Moreover, there were also conflicts which were for revenge or that on land. As it is clear in the table, the significant point is that the southern state which is more fertile most conflicts were between the nomads and farmers, whereas the Northern states conflicts were on the water resources as drought state. Also there were many conflicts its reasons were lootings or revenge or some tribal reasons.

16 The significant point is the increasing of governmental intervention in the solution while in the past the public administration was the tool of the resolutions. Also in globalisation era it becomes political conflicts between the tribes and the government as it gained international concerns.

6. MEDIA AND PEACE EDUCATION

“Two words, media and peace education: seem to be repeated over and over again. The two go together like a horse and carriage to use a pre educational metaphor. Peace education is one of the elements that had a remarkable impact on the media, as it represents an indicator of relations between the media and society. ,One of the key points in the globalization debate has been the declining hold of the nation-state on individual’s identities” (Rantanen, 2002, p.6). The territorial nation was too small for the big problems of life and too big for the small problems of life”. Internationally, globalization is said to make

the nation state increasingly irrelevant. Therefore, globalization can be beneficial as it is able to cross borders created by external powers and without any concern for the differences or similarities in cultures between people in the state. Therefore, the media can play a positive role in bridging the gaps and creating unity, in how it influences and guides. However, the media may also play negative roles by creating new values and guiding the public to adopt them, resulting in cultural conflicts between conservatives and believers in the new concepts. The media is crucial in reproducing ideology; Williams (2003) argued that there would be no globalization without media and communications. Indeed, many other scholars consider the media as a tool of globalization. There is no question that all these globalizing trends are made possible with the help of mass media at both the domestic and international level (Jan 2009).

The new media system has an important element, represented in the natural birth of new economic and political factors, which have replaced the old media style. So journalism and news gathering have been affected by globalization and communication flow, and have become connected to it. Like every other social practice, journalism cannot now fully be understood apart from globalization. As part of a larger platform of communication media, journalism contributes to this experience of the world-as-a-single-place and thus represents a key component in these social transformations, both as cause and outcome’ (Reese, 2010). This is the result of significant growth of social interconnections, which is built on the thought of the global village that shrinks borders and time, creating awareness of any single location and place and its relative position within the global experience. The media

contributes to this experience, and represents the key tool for these social transformations (Reese, 2010). Globalization is mainly an economic aspect, as appears in its definitions. In this new paradigm, there seems to be a shift in the balance of component political, social and economic values that shape the definition of the public interest'. However, Boyd and Rantanen (1998) argued in their book on the globalization of news, that commercialization started with the news agencies, which dominated the news markets, and propaganda, which was political, becoming economic, but continuing to use the same methods. They studied the role of news agencies, and how these globalised the mass media, so when the developed countries' agencies dominated the news market, national states started to establish their own agencies to reflect their national news globally, and thus started globalization in the media sector.

"This 'international news culture' can be said to exist insofar as it describes infrastructure heavily reliant on international news suppliers like the Associated Press and Thomson Reuters, regional news exchange unions such as the European Broadcasting Union, and transnational rolling news channels willing to sell their feeds, such as CNN.1 In addition, the bureaucratic structures of Western journalists" (Riegert, 2011).

The remarkable change in the media sector in the globalization era is in news sources and news gathering. This is a result of the wide spread of new technologies, which are more effective and faster than past ones used by correspondents and news organizations, thus, creating diversity. In some theories, the media is classed as an industry that produces culture, and sells it commercially, placing it in the economic area. Serves and Lie (2008), as Lacey (2002, p.35) said, *"The driving economic force in western society is capitalism, the pursuit of profit, means that most media organizations need to commodity their product in order to generate revenue."* As a result of widespread western capitalism and pursuit of profit, the media is a business with culture is its product, which reflects values and beliefs; so the media is responsible for identity, its preservation or diminution. However, globalization can be beneficial as it is able to cross borders created by external powers and without any concern for the differences or similarities in cultures between people in the state. These differences are important to be reflected, as it can give the clear idea of the concepts. Therefore, the media can play a positive role in bridging the gaps and creating unity, in how it influences and guides. *"There is no question that all these globalizing trends are made possible with the help of mass media at both the domestic and international level (Jan, 2009).*

7. ROLE OF THE MEDIA IN PEACE EDUCATION

From the foregoing, how can we benefit from the media in building peace and minimizing conflict?

'Information is power and insight can impact on public discourse' (Kuusik, 2010).

Lack of information can at any stage of a conflict, make people distressed, restless and easy influenced. The ability to make informed decisions strengthens societies and fosters economic growth, democratic structures and the positive outlook on the future. For this very reason, the United Nations Millennium Declaration stressed the need *'to ensure the freedom of the media to perform their essential role and the right of the public to have access to information'* (United Nations Millennium Declaration, (2000) (Kuusik, 2010).

So the access to free information is important to the journalist as they have to balance their coverage of all conflict parties avoiding the hate language. Peace journalism needs to provide a new road map for tracing the connections between journalists, their sources, the stories they cover and the consequences of their reporting. Globalization has impacted the news sources as it opens the door open for the social media which can provides journalists with photos, reports and videos in their places, these source can effects the balancing the reports, as it can be from one side against the other which can affects the peace process.

The media with all its means and types can play a significant role, and can influence the conflict area positively, by applying its influence towards ending the conflict, or at least enhancing the peace environment and driving public towards peace. I will try to summarize some appropriate ways which can enhance peace, journalists have to precise about what they know and if they have not the knowledge they have dig into the history of the place and the roots of the conflict, they also have to focus on the human rights and show the parties the conflicts effects on the citizen. Moreover they must pick up any peace initiative and explore it, try to report on invisible effects for example the psychological damage and trauma.

Broadcasting news by using community radios can help reach people in different areas, even with different languages more easily. This way people can be addressed directly and their own personal experiences and lives can be incorporated much better, than with foreign media. However, not all conflicts are equal in the attention they gain internationally. Therefore, local media is vital, and must play a significant role in helping people in different areas, using all local languages, especially in broadcasts (radio and TV), which can reach all areas. People can address their personal experiences to the local, unlike the foreign media, as they can cooperate much better with it. It is also possible to convey peace messages through the local radio to the fighters and displaced persons, and influence them to respond positively to peace efforts. However, local media can also create more problems in the conflict area, and worsen the situation, through manipulation and inflammation of ethnic tensions. In the globalization era, most conflicts are internal, but do not occur spontaneously. Rather, they tend to have history and deep roots. Local media is able to understand the existing political structure, the participants in the conflict, and the events prior to the outbreak of violence (Kuusik, 2010).

8. CONCLUSION

Harry S. Truman once said “You can never get all the facts from just one newspaper, and unless you have all the facts, you cannot make proper judgments about what is going on this statement reflects the need for free access to unbiased information. Not giving people the possibility of political participation and not allowing them to express themselves freely is a significant cause of conflict. On the one hand free, independent and pluralistic media provide a platform for debate and different opinions. On the other hand, media can be misused for propaganda purposes, to incite hatred and spread rumors and therefore artificially create tensions. The transmission of ideas is also not limited to conventional media such as newspapers, TV or radio. Arguably, the traditional media takes primacy in this, however, new technologies, the internet and digital content should also be considered in this context. Lack of information can, at any stage of a conflict, make people desperate, restless and easy to manipulate. The ability to make informed decisions strengthens societies and fosters economic growth, democratic structures and the positive outlook on the future. For this very reason, the United Nations Millennium Declaration stressed the need “to ensure the freedom of the media to perform their essential role and the right of the public to have access to information”. For the media it can be problematic to find a balance between preventing harm caused by speech and protecting individual expression. Being able to find this balance however is important especially in conflict situations. Responsible journalism does not just re-publish press releases but is truly concerned with a truthful, balanced and fair account of events. In order to achieve this journalists have to stay clear of judgmental representations and describe reality without embellishment. If democracy is to work properly, society needs access to news and information; analysis of the status quo, debate, practical information and exchange as well as entertainment are needed and provided by the media. The definition of conflict and defining conflict areas is not easy and no two places are alike. Journalists need to know what they

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Quality Assurance and Quality Control in Relationship of Bond Price and Interest Rate by Direct and Selective Method: Conceptual View

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Abstract: *With the increasing concern for globalization and liberalization around the world, risk is a feature of financial/capital markets which effect variations in financial assets prices, interest rates and exchange rates, exposing the corporate world to financial risk . The effective solution to the problem of risk embedded in the price of the underlying asset such as bond prices. Main changes in the international financial market brings the progressive integration of developing countries, International financial operation –capital market operation –issues of securities, Exchange deals – buying and selling of currencies, Banking transaction- accepting deposits and extended loans, Servicing capital market offering –merchant banking, Payment for services rendered . The focus of this article on appraisal of Quality Assurance in methodology adopted for credit control and credit creation in economy to show bond price relationship. Quality Assurance is process or method fit for use or purpose meeting needs and expectation of customer with respect to functioning, designing, reliability, durability and price of model used, as a set of activities assuring quality is the process by which financial products developed (proactive process), Quality control is reactive process. Quality Assurance Method are Cost benefit analysis, Cost of quality, Control chart, Benchmarking, Design of experiment, Statistical sampling, Flow charting etc.. The focus is on Potential of Financial Market in India with inverse or direct relationship between Bond and loanable fund and interest rate . Quality Assurance and quality control in the sense of Quantitative and Qualitative Method for Monetary control with -Issues, Approach and Challenges.*

Keywords: *Bond Price, Credit Creation and Control, Interest Rate, Securities, Quality Assurance, Quality Control.*

1. INTRODUCTION

As the risk is a feature of financial/capital markets which effect variations in financial assets prices, interest rates and exchange rates, exposing the corporate world to financial risk . Main changes in the international financial market brings the progressive integration of developing countries, International financial /capital market operation –issues of securities,

Exchange deals – Banking transaction- accepting deposits and extended loans, Servicing capital market offering .The effective solution to the problem of risk embedded in the price of the underlying asset such as bond prices. The focus of this article on appraisal of Quality Assurance in methodology adopted for credit control and credit creation in economy. Quality Assurance, as process or method helps for use or meeting needs and expectation of customer with respect to functioning, designing, reliability, durability and price of model used, as a set of activities that assuring the quality by which financial products developed (is proactive process), Quality control is a reactive process. The focus remain on Potential of Financial Market in India with Bond and loanable fund and interest rate relationship. Quality Assurance in the sense of method -Quantitative and Qualitative used for Monetary control.

A) Issues

Central Bank or Reserve Bank of India and Monetary Management

By the Reserve Bank of India Act.1934, the functions are, Bank of Issue, Banker to Government, Banker's Bank and Lender's of the last resort, controller of credit, custodian of foreign exchange risk. The supervisory function include control over commercial and cooperative bank, relating to licensing and establishment branch expansion, liquidity of their asset, management and method of working, amalgamation, reconstruction and liquidation .The promotional function like promote banking habit extend banking facilities to rural and semi urban areas .The monetary function is control and regulation of money and credit issue of currency, control of bank credit and foreign exchange operation, regulate the volume of money and credit in country. The quantitative and qualitative instruments of credit control and creation exists, Bank rate, Cash Reserve Requirement (CRR), Statuary Liquidity Requirements (SLR) and Open Market Operation of RBI, Selective and Direct Credit Control, Credit Authorisation Scheme (CAS), Credit Monitoring Arrangements (CMA). The quality assurance method like,

- a. Cost benefit analysis (Monetary Condition Index-indicator of impact of changes in interest and exchange rate)

- b. Cost of quality (Monetary Targeting-rate of growth of money supply)
- c. Control chart (Currency Chest managed by public and private sector bank)
- d. Benchmarking (Prime Lending Rate, Base Rate and Reference Rate)
- e. Design of experiment (Liquidity Adjustment Facility)
- f. Statistical sampling (Selective Credit Control)
- g. Flow charting (Financial Stability Report)

Types of Quality Control

- a. Process control (Through RBI-Quantitative and Qualitative method.)
- b. Acceptance sampling (Government Securities and Bonds with and without maturity tenure)
- c. Peer review (Global competitive market Advantage)

For money supply or credit creation or credit contraction to increase the derivatives or secondary deposits on the basis of primary deposits either through the process of making loans or investment in securities. To control the credit general or quantitative instrument bank rate policy (minimum lending rate rediscounts first class bill of exchange and Government securities, open market operation –sale and purchase of securities in the money market, rising prices encourage to sell the securities, changing the reserve ratio(CRR, SLR), as prices rises to raise the reserve ratio to control credit. The selective or qualitative instrument to influence the specific types of credit for particular purpose. The changes in margin requirement – loans on the basis of mortgaging some stock with them against their proportion, direct action to restrict the loans if not follow rules and regulation, rationing of credit to control the expansion of credit, moral persuasion or advice on the basis of moral grounds not only to control the credit also the objective of the credit. Loan rate depends upon the (i) base rate that is cost of deposits, cost of CRR, SLR Funds, Overhead expenditure, (ii) individual risk due to cost of product, cost of borrowers risk, cost linked to duration of loan.

(B) Approaches

Approach 1: When Payments Are Fixed Price Must Carry the Burden

A simple investment - if this security amount promises an annual payment of Rupees 10 forever and if the investor wants to earn 10%, what is the most that the investor should be willing to invest in this security? In other words, Rupees 10 a year would represent 10% of what invested amount? Even the least quantitatively-it is Rupees 100 estimated quickly. We then suppose that for whatever reason(s), market interest rates or the required rate of return increases to 20% and we consider two different types of bonds. One is a fixed-price type and the other is a fixed-payment type. What would happen with each type of bond in order for the investor to earn a 20% rate of return, for the fixed-price bond, the annual payment would need to increase to Rupees 20, whereas with the fixed-payment bond, the only way to give the investor the required rate of

return is to give him the same Rupees 10 a year but require to invest only Rupees 50. It's the fact that the future return is fixed that means that the only way to alter the percentage return for the investor is to have the amount invested--the price of the bond --move in the opposite direction.

Approach 2: It's Simply a Matter of Arithmetic

Bond pricing formula helps to calculate the present value of an annuity. In particular, the formula for the price of a bond can be presented as the present value of an annuity (the fixed coupon payments) plus the present value of a lump sum, Price of the Bond= Periodic coupon payment $[(1-1/(1+\text{required rate of return})^{\text{Number of payments}})/\text{required rate of return}] + \text{Maturity value}/(1 + r)^{\text{Number of payments}}$

Approach 3 : Demand and Supply

The inverse relationship between bond prices and interest rates on financial markets, the approaches from somewhat a typical perspectives are offered. The approaches emphasize the supply and demand in the markets for bonds and loanable funds, the relative effectiveness, indeed make a difference in understanding of this key financial markets relationship to suggest possible concept is one of the most fundamental relationships in finance. Whether the primary focus is financial markets, corporate finance, or investments, coverage of the bond-price-interest-rate. In this article, review the relationship and quantitative and qualitative results from the application of the approach, every demand carries with it a corresponding supply and vice versa or every demander is simultaneously a supplier and every supplier is simultaneously a demander. This approach shows the inverse relationship between bond prices and interest rates. One is that a market participant is never simultaneously demanding and supplying the same asset and the other is that the supply and demand of the connected assets will always move in the same direction. Using a loanable funds framework, we would describe the two sides of the same coin as consisting of —bonds on one side and —loanable funds on the other. If, for example, an increase in the demand for bonds, this emphasize that the way for an investor to *demand* bonds is to *supply* loanable funds. (a) Interest rates represent a price—the rental price of money—and are affected by changes in supply and demand in precisely the same manner as is any other price, including the price of a bond; and (b) Prices always change in the same direction as the change in demand and in the opposite direction from the change in supply. In case, lenders increase their demand for bonds, resulting in upward pressure on bond prices, the simultaneous flip side of investors increase in the demand for bonds is the increase in their supply of loanable funds thereby placing downward pressure on interest rates.

(C) Challenges

- a) **Bond Prices and Interest Rates** -There is an Inverse relationship between market rate of interest and market price of a credit risk free Government bond such that a rise in the market rate of interest will depress the market price of a bond and vice versa. As a marketable treasury bill of

the government of India which is free from credit risk- there is no risk involved about the payment of interest and redemption of bond on the maturity. Although the purchaser of a Government bond faces the market risk due to the possibility of loss in the market price of the bond arising out of change in the market rate of interest in future. This same Inverse relationship between rate of interest and market price of a security holds in the case of other securities with specified maturity date. The Inverse relationship between rate of interest and market price of a security holds in the case of other securities with no maturity date and on which the bond holder receives the specified interest amount.

b) Joint Markets for Bonds and Loanable Funds - This approach for explaining the inverse relationship between bond prices and interest rates and demand supply approach can indeed make a difference in this key financial markets relationship. The explanations for the inverse relationship between bond prices and interest rates utilizing slightly different perspectives from the more direct Time Value of Money framework. The approaches emphasize the following:

(1) the only way for the bond to yield the market rate of return is for its price to change in the opposite direction from the change in the interest rate.

(2) changes in the interest rate will change the value of all of the fractions in the opposite direction, thereby changing the price of the bond in the opposite direction from the change in the interest rate.

In nut shell,

(a) Fixity of (Coupon) Payments: Because (coupon) payments are fixed, the only way for the bond to provide the market rate of return is for its price to change in the opposite direction from the change in the interest rate.

(b) Bond Price as Sum of Fractions with Fixed Numerators: With constant numerators, changes in the denominator (the interest rate) will change the value of all of the fractions in the opposite direction thereby, changing the price of the bond in the opposite direction from the change in the interest rate.

(c) Demanders (Suppliers) of Bonds are simultaneously Suppliers (Demanders) of Loanable Funds and Prices of Bonds and Loanable Funds Move Directly with Changes in Demand and inversely to Changes in Supply: Changes in demand for (supply of) bonds must be accompanied by changes in supply of (demand for) loanable funds in the same direction causing bond prices and interest rates to change in opposite directions from each other.

The selective method with direct method to help the credit control separately in bonds and loanable fund for quality assurance with quality control through rate of return as of efficiency of financial product by relationship in direct with interest rate and bond and inverse with interest rate and

loanable fund with credit create and credit control respectively through instruments at financial market risk control for fluctuation in bank and interest rate in Global World. The quality assurance methods help by monetary condition, target, circulation of currency, specific interest rate, through cash adjustment facility and financial stability through selective credit control.

2. CONCLUSION

The risk is a feature of financial/capital markets effect interest rates and exchange rates. The effective solution to the problem of risk embedded in the price of the underlying asset such as bond prices. Main changes in the international financial market brings the progressive integration of developing countries like Exchange deals – buying and selling of currencies, securities and Banking transaction- accepting deposits and extended loans. The focus on evaluation of Quality Assurance in methodology for credit control and credit creation in economy. Quality Assurance, process or method fit or meeting the needs and expectation of customer with respect to functioning, designing, reliability, durability, as a set of activities assuring quality by which financial products developed, Quality control is reactive process. Quality Assurance Method are Cost benefit analysis (Monetary Condition Index), Cost of quality (Monetary Targeting), Control chart (Currency Chest-smooth circulation of currency), Benchmarking (pricing the loans using a base rate instead of the benchmarking Prime Lending Rate, and Reference Rate), Design of experiment (Liquidity Adjustment Facility), Statistical sampling (Selective Credit Control), Flow charting (Financial Stability Report). The focus is on Potential of Financial Market with relationship of Bond and loanable fund and interest rate in India, Quality Assurance in Quantitative and Qualitative Method for Monetary control with Issues like instruments used by Reserve Bank of India to control credit and loan through variable reserve ratio, Approach –joint market for bond and loanable funds and Challenges –inverse or direct relationship of interest rate with loanables fund and bonds as dilemma to understand.

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