

## ICT: A Catalyst adopted for Quality in Higher Education in India

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### Abstract

*Education is the basic ground for any economy's growth. The times of Industrial revolution to information revolution has revealed the significance of education in social and technological advancements. This review paper basically focuses on the changing dimensions of quality in higher education due to the transformation of Information Revolution to Digitalization. It discusses how this transformation from information revolution to digitalization is acting as the catalyst to the higher education in the country and I turn developing more technological up gradation. These changes have innovated the education sector via accepting the challenges as the opportunities by creating new employability. A quality Higher Education provides the qualitative youth for the growth of sustainable strong economy. In response to the dynamic national, regional and global development, the effective and qualitative system of education is required. A strong economy have educated citizens which having quality and better knowledge. The change in the trend of information revolution to digitalization has brought various changes to enhance the quality teaching – learning phenomenon. This in turn is considered as a needed driving force for economic progress and growth in future. The educationists in higher education act as the catalysts for socio - economic growth as they create a networking exteriority that not only persuade the formation of new ideas but also develop new technologies and market formations as well. It should be the aim of the educationists to promote quality learning and usage of information explosion through digitalisation that can significantly give shape to the rising economy of India.*

**Key words:** *Education system, Quality teaching - learning, Digitalization, ICT*

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### Evolution of Information Revolution:

There is a highly positive correlation between The economic development of a country and development of higher education. The study of business management begins formally with the need based Industrial Revolution in the world. Thereafter the changes in the market conditions, the completion, the technological advancements, the increased paying capacity etc brought information Revolution that lasted almost till global recession in 2006, this time is of Competition and Branding. The evolution has reached in Social Revolution &

Digitalisation wherein CRM, Retention of Human Capital, Total reward optimisation, Crave for Quality of Life have become the characteristics of the marketing in the business world.

India has observed a incredible transformation in its management education in the 21<sup>st</sup> century. Lakhs of graduates pass out every year in India which provides great potential to contribute to the formation of a knowledgeable society. According to Indian Constitution, education is a fundamental right of an Indian. Government starts various scheme to promote this because India having developing economy in world. No doubt, the education system of India is not extra-ordinary but government tries to provide qualitative material which increases their knowledge and skills. According to Directive Principle of State Policy, education is compulsory for children and free up to primary level.

In Indian education system, teachers are the backbone of system. The government has put some criteria for selection of teacher and also checked which kind of pedagogy they adopt for teaching means teaching aid. According to a survey 25% population of India is illiterate and only 7% population that who goes to school and 15% of these populations enrolls to higher education. The one of the major factor of increased competition is the lot of amendments or we can say changes have come in the higher and lower education system throughout the world. According to UNESCO, “higher education is no longer a luxury; it is essential to national, social and economic development”.<sup>[1]</sup>When the time changes gradually it came up with both threats as well as opportunity for every sector, this is same happened in the education sector in India in this world of 21<sup>st</sup>centuary. A lot of challenges and opportunities for the betterment have been bought in higher education. The changes are seen coming up at a very fast pace. The confrontations faced further are multi formalities in nature and multidimensional as well as bulky growth has been shown in the statistical data about the students who has been admitted in colleges/universities. But the aggregate view brings into light that only a small part of population has access to higher education. The common reasons for bringing these challenges or changes are privatization and globalization. After entrance of these new challenges yet the country is involved in solving the basic hindrances for availability of higher education for every citizen.<sup>[2]</sup> For the sake of the development of country human resource plays an important role and the humans must be educated and made aware of. Various kinds of higher education system like management, medicines, engineering plays a vital role in engulfing knowledge, values and developing skills for the increment in the productivity and growth of the nation. Government of India is involved in accommodating primary education. Not only has this government also looked out for various

facilities like subsidies for higher education. Subsidies are provided because of the cost involved in establishing institutes for such education of higher level. Not only public sector private sector also fully involved in establishment of education institutes.<sup>[3]</sup> For obtaining world's largest and widest higher education system the government of India has arranged full policy support as well as extraordinary public funds after the independence of India.

### **ICT equipped Education System: Contributing the Economy**

The place of education not only provides simply knowledge but it's also helps to developed physical, mental and spiritual skill in the students. The development of an economy depends upon the development of students that goes via a modified education system by grabbing the challenges as the opportunities. When economic analysis of a country takes place both education and economic are correlated with each other. At the micro level economics the relation between a person's educational qualification and in terms of that what they earn is studied. The literature of macro-economic shows strong relationship between many measure of educational attainment at aggregate level for a country as a whole and the economic growth's standard measure in terms of GDP. Most of the studies found that higher GDP growth in the country depends upon the population which has on average completed more years of schooling and for cognitive achievement attains higher scores on the tests. The technology is affecting the education world of India and vice-versa. In this era of modernization innovation plays important role in education due to latest techniques of teaching area. If the regulators of education sector are paid financially well and are motivated they might take the higher education to real heights.

### **Information Revolution in Education: Changing Dimensions of Quality in Higher Education**

Information and Communication Technology means the use of hardware and software technologies for effective and efficient management of information. It refers to that form of technology which is used to transfer, store, create and exchange information. ICT has become inseparable part of life. The inventions in science and technology revolutionized the speed of communication. ICT is helping people to fulfill their needs.

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 2017-18, there are 903 universities, 39050

colleges and 10011 stand alone Institutions in India. 47 central universities, 290 state public universities, 343 private universities, 1 central open university etc..the teachers from 15000 has been increased to 1.3 million. Thus to cater need of youth, skills and employment, digitalisation and ICT is of great need.

The integration of ICTs is a complex process involving technology along with curriculum and pedagogy. It involves institutional readiness, teachers' competencies, and long term financing, Concerns over educational relevance and quality.

The prime aim of implementation of Information and Communication Technology in education system is to integrate the information and communication technology into general education system

### **Contribution of Information and Communication Technology in education**

- (i). It provides access for education for all.
- (ii). It contributes towards the equality in education.
- (iii). It provides for the delivery of better and quality learning and teaching.
- (iv). It helps in Teachers' professional development
- (v). ICT enables more efficient and effective management, governance and administration.

### **Education Scenario in India in context to digitalization and ICT**

Globalisation and Technological changes have created a new global economy "Powered by technology, fueled by information and driven by knowledge" ILO specifies the demand for education and training in the new global economy simply as "the basic education for all", "core work skills for all", and "Lifelong learning for all". India shows tremendous geographic and demographic backwardness in ICT use. India has one of the biggest ICT workforces in the world.

Indian Government has taken a number of initiatives in adopting and enhancing the adaptation of ICT in education sector to improve the quality of education. Quality Education has been the top priority for the Indian Government. It is believed that technology integration brings a meaningful & long lasting Learning. MHRD's Committee for drafting the 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. Sakshat Portal is started as the delivery platform (under NMEICT) to facilitate life long learning

### **ICT Tools**

A project under National Mission on Education through ICT (NME-ICT), E-PG Pathshala is initiated to extend connectivity in computer infrastructure to over 32,000 colleges and departments of over 550 Universities, deemed Universities and institutions of national importance in India. This aims of this project is to fulfill the gap in use of skills for using computing devices for the objective of teaching and learning in rural and urban teachers and learners in higher education. The aim of this project is to give empowerment to those who are not in touch of digital revolution.

Campus Connectivity, E- Content, The INFLIBNET Centre has developed a web based portal called e-Acharya, SWAYAM, National digital Library, Talk to a teacher (IIT Bombay), Artificial Intelligence, Game based learning etc are a few of the tools that are popularly being adapted by the educationists for learning. As on June 2015, in app store, there were over 80,000 educational apps available. It is difficult to say how many are truly educational. Ministry of Human Resources Development, Government of India launched the “National Program on Technology Enhanced Learning” in the year 2003. the video files are freely available via the IIT channel in youtube. At a single click e-books are now available for students.

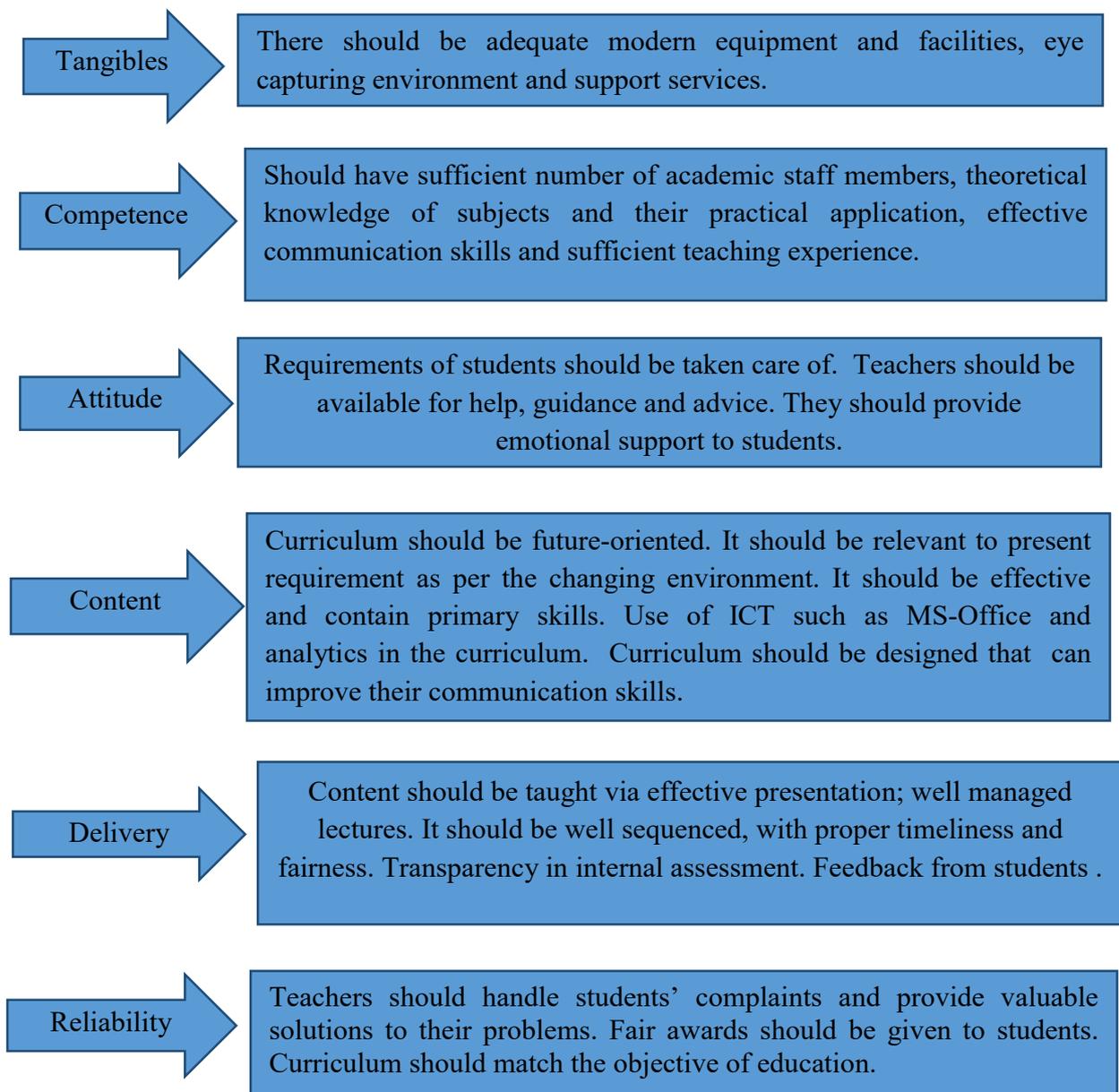
National Knowledge Network: a state of art multi-gigabit pan-India network for providing a unified high speed network backbone for all knowledge related institutions in the country. IITs, II Physics, II Sc, II of Tropical Meteorology etc. to help researchers, scientists and students from various backgrounds & diverse geographies to work closely for receding human development in critical and new areas.

E- learning and E-teaching: ICT is helpful tool for providing universal access, equity, the delivery of better learning and teaching helps in professional development of teachers and better education management, administration and governance.

### **Quality in teaching –learning via Technology**

Quality in Teaching: When the Product i.e. the educated student is employable, socially, technically, economically constructive and also globally competitive. It requires tools of information communication and technology that helps in T-L process. It's a two way process involving a diffusion process of dissemination of knowledge becomes effective and an adoption process of absorbing and using the knowledge for betterment of individuals and society

### Quality Dimensions of Education System



The meaning of Quality is redefined in Higher education. It is believed that education gets enriched with research into it and providing knowledge and also a chance to create their own knowledge. It is believed that there is a great dependency on ICT. Research and teaching

goes hand in hand. The enhancement of Quality in higher education does require resources include the infrastructures, funding, availability of mentors and guidance etc. There is a significant role of Quality Assurance in higher education throughout the globe. Various policies, actions and procedures needed are adapted to ensure that quality is being maintained and enhanced.

There has been many reforms in higher education in context to academics, semester system, choice based credit system, curriculum development, Interdisciplinary learning, skill based learning, new admissions procedure, examination systems, issue regarding autonomy of universities etc.

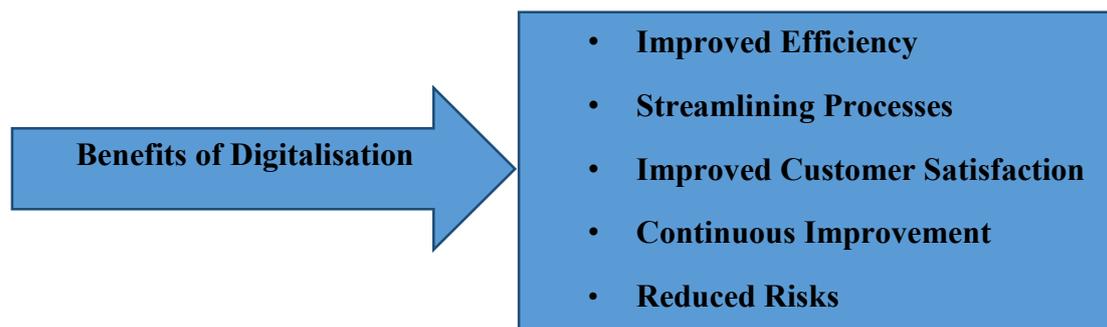
### **Transformation of Information Revolution to Digitalization: Changing Dimensions of Quality in Higher Education**

Thus Digital transformation is a process of using digital technology and tools to create a new or modify the existing business Process, culture, and customer experience to meet the changing business requirement

#### **What has Propelled Digital transformation**

- Accelerating & Evolving Technology such as Project management, Cloud Computing, Cyber security, AI, Internet of Things, Digital Marketing, IT service sector, Big Data Analytics, etc
- Free and abundant information availability through the Social & Digital Media
- Increased Availability and usage of Real Time data
- Other Digital technologies such as the electronic System, devices & resources that generate , store & process data, social Media, Online games, Multimedia, Mobile phone.

These digital technologies gave solutions to individual, Industries, Businesses etc. in various sectors such as Defence, Health, Tourism, Education, IT and others to collect, protect, analyse, Use and disseminate for some qualitative changes by enhancing the speed, secrecy, convenience, reliability etc.



The entrance of new technology of information and communication (ICT) has changed each and every field of India whether it will be a business, or education even every point of the human endeavor. Over the 50 years, India has made substantial practices in improving educational system. An ICT Architecture will increase access, equity and Quality in Education such as SWAYAM MOOCs portal (study Webs of Active learning of young aspiring mind is an indigenous MOOCs portal that provides high quality education- anyone, anytime, anywhere) 33 lakh users, 1000 courses. SWAYAM Prabha : educational content to the most backward areas using satellite communication, 32 DTH channels have been made functional. National Digital Library Virtual repository of learning (15 million digital books, 31 lakh learners), etc.

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