



‘IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) ON HIGHER EDUCATION WITH SPECIAL REFERENCE TO SELF FINANCING INSTITUTIONS.’

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Abstract : ICT is the integration of Computer and Communication technology used for creation processing, storage and dissemination of information. The convergence of computer, communication and technology evolved as ICT, have attracted attention of academia to use it for innovative propositions. ICT is extensively used by higher educational institutions worldwide and are emerging as a part on-campus delivery as well as open and distance modalities of higher education delivery. The communication technology changes are becoming user friendly devices like desktop, palmtop, iPod etc day by day. ICT plays a great role in the emergence of knowledge-based society in the 21 st century. The main aim of this study is to elevate the importance, scope and methodology adopted by self-financing institutions for computer-based education. Information and communication technologies have enhanced and changed the nature and context of communication exchange, allowing for a broader range of competition. Although higher education institutes are not typically thought of as a business, colleges and universities utilize marketing strategies in order to compete for students. Colleges and universities are relying on data-driven analytics to determine who, how, and where they are reaching their audiences. The main aim of this study is to elevate the importance, scope and methodology adopted by self financing institutions for computer based education.

Key words: Information and Communication Technology (ICT) and Higher Education, Self-Financing Institutions

I. Introduction

The use of Information and Communication Technology (ICT) in higher education has brought about significant changes to the way education is delivered and accessed. Higher education is a powerful tool in the development of a country. Higher education is a powerful tool in the development of a country. In India higher education plays a great role in building knowledge-based society. The challenge for the 21st century Indian universities is in terms of access, equity and quality. The government of India has taken several initiatives during the 11th five-year plan period to increase access to higher education by adopting state specific strategies, enhancing the relevance of higher education through curriculum reforms, vocational programs, networking information technology adoption & distance education along with reforms in governance. It is also a universal fact that it cannot replace teachers as they are core part of quality teaching and technology cannot succeed without them. The only thing which can be changed, modified and upgraded is technology, way, method and mode of teaching. These innovative changes due to ICT forced all the educational participants to think futuristically and educational institutions, administration and teachers must adjudicate their roles, approach and vision accordingly. The Government of India has launched several national and state-specific initiatives that combine, at the level of secondary and higher learning in the country, with a

considerable number of ICT private-led activities. National Policy on Information Communication Technology (ICT) is available on the website of the Department of Human Resources Development.

Some of the largest ICT- based education projects in India include:

The teaching-learning process of the (IGNOU) is facilitated via the use of radio, television, and the Internet. The National Programmer on Technology Enhanced Learning is an idea comparable to MIT's open courseware programmer. It makes use of Internet and television technology. "The concept is straightforward: post all of their online courses make online them publicly available to everybody."

The Eklavya project promotes distant learning via the use of the Internet and television. Eklavya Technology Channel is a collaborative distance learning project of IIT and IGNOU. On January 26, 2003, it was launched by Prof. Murli Manohar Joshi, Honorable Minister of HRD. Brihaspati is an open access e-learning platform created by the Indian Institute of Technology (IIT) Kanpur. Premier schools such as the Indian Institute of Management (Calcutta) have formed a strategic relationship with the National Institute of Information Technology (NIIT) to deliver programmers using virtual classrooms. Tutorials on the Speaking Tutors is a recent initiative of a National Education Through Mission (ICT) "Talk to a Teacher" activity that was launched as part of the Indian National Education Mission in the year 2015 by the Ministry of Human Resources and Development. The target audience comprises, among other individuals, students, professionals, retired professionals, teachers, trainers, investigators, software users and software developers. Since its creation, more than 12 lakh students globally have been trained in the Spoken Tutorial Project. The spoken instruction additionally allows students to participate in online examinations and diplomas. NPTEL, SWAYAM, and e-PG PathShala are among of the government's ICT-based initiatives for excellent higher education. More advances in systems are required. Even yet, the average student does not have access to much of the authorized information. This needs to be altered. Integration of ICT in Higher Education entails improving the quality of teaching, learning, administration, and academic research. Some of the primary consequences of this integration are successful seminars, management development programmers, rapid and secure academic activities, and transparency. Furthermore, the sensory approach employed in ICTs is extremely successful from a psychological standpoint, with imagery being a key component. As a result, learning is both quick and high-quality. E PG Pathshala -Third project of MHRD the E-PG Pathshala project is being run by the UGC's NMEICT programme). Three distinct ICT platforms are being used under this scheme. More than 700 E-Books are available for PG Courses on the E-Adhyayan platform. The E-PG Pathshala courses serve as the basis for all of the E-Books. Students are assisted at this platform by a video playlist as well. The UGC-MOOCs, SWAYAM, is one of the verticals for producing courses in Post Graduate topics. As a national coordinator and technical partner, UGC is active. One of the platforms for E-PG Pathshala is E-Pathya. It offers software-driven course materials that support graduate students who are pursuing their education both online and on-campus. Also, it is made available offline.

Shodhganga platform

The database of electronic theses and dissertations in India is called Shodhganga Platform. The purpose of this platform is to improve research quality while facilitating quick access to and availability of electronic theses for students. According to the 2016 Regulation, which requires students to submit their electronic theses and dissertations to centrally managed digital repositories. A centre for the information and library network (INFLIBNET) was constructed at this location. INFLIBNET's duty is to host, create, and manage a digital repository for electronic theses and dissertations that is open to all academic institutions. This platform offers a server for universities and other organizations to utilise in order to access the database from all electronic theses and dissertations (ETD), in addition to maintaining the ETD repository. **E-ShodhSindhu Platform** In essence, it is the merger of three government initiatives, namely the Indian National Digital Library in Engineering Sciences and Technology (INDEST) consortium, the National Library and Information Service Infrastructure for Scholarly Content (NLIST), and the UGC INFONET Digital Library Consortium. The EShodhSindhu Platform is a library of journals and online learning materials that gives academics and researchers from many sectors access to 15,000+ articles (core and peer-reviewed). This portal offers a sizable amount of bibliographic, reference, and factual data from several Publishers, research centers, and universities across numerous fields. The E-ShodhSindhu Platform's goal is to increase standard e resource availability at a minimal subscription fee.

Challenging Factors Affecting Utilization of ICT in Higher Education

In the year 2011,[6] a survey was conducted by UGC on accredited colleges and it was found that percolation and penetration power of ICT in higher education is far from satisfactory due to poor infrastructure and many things can be done to improve the situation. Majority of our population residing in the rural areas have poor access to internet, so it is very much essential to improve their exposure and training on basic computing skills in order to reap the real benefit of ICT. The main problem which the current scenario is facing is high cost of acquiring and installing, operating and maintaining ICTs. While potentially of great importance, the

integration of ICTs into teaching is still in its infancy. Introducing ICT systems for teaching in developing countries has a particularly high opportunity cost because installing them is usually more expensive in absolute terms than in industrialized countries whereas, in contrast, alternative investments (e.g. buildings) are relatively less costly (UNESCO, 2009). This research paper aims to provide a comprehensive understanding of the dynamic relationship between ICT integration and student learning outcomes in higher education through a detailed examination of empirical studies, case examples, and an analysis of the existing body of literature. We will investigate the impact of ICT on pedagogical methods, the role of technology in fostering student engagement, and the broader implications for academic achievement. Additionally, we will explore the challenges and opportunities that come with this transformation and consider future trends that may further shape the landscape of higher education. For successful functioning of ICT in higher educational scenario teachers need to face and accept major challenge of re-thinking and re-framing their roles and competencies from that of knowledge-generators to knowledge –facilitators. Teachers should be competent enough to employ particular applications and be proficient with computers, be confident to integrate ICT into existing curricular that is completely information technology-oriented.

Some of the major challenges faced by ICT include but are not limited to the following:

- Lack of human interaction
- Financial restriction
- Overdependence on smart devices.
- Technical issues
- Lack of self-motivation
- Intermittency of Electricity Supply.
- Social isolation
- Low level of computer literacy
- Feedback is limited

II.Literature Review

Balaji and Chakrabarti (2012) emphasize the need for comprehensive cost-benefit analyses when implementing ICT in higher education. While initial investments in infrastructure and technology can be significant, the long-term benefits in terms of improved learning outcomes, reduced administrative burdens, and enhanced accessibility often justify these costs.

The adoption of online and blended learning models, enabled by ICT, has grown substantially. Graham et al. (2013) establishes a framework for the adoption of blended learning in institutions, focusing on how it affects student learning outcomes.

The adoption of ICT in higher education is not without its challenges. Zawacki-Richter and Naidu (2016) discuss the importance of addressing issues such as data privacy ,cybersecurity, and academic integrity to maintain a secure and ethical learning environment. Ethical considerations are paramount as institutions navigate the

digital landscape.Meenakumari & Krishnaveni (2011): In “Transforming Higher educational institution administration through ICT” has identified a comprehensive set of functional areas of e-administration. The study revealed that demographic factors do not have a major impact on e-administration in higher education institutions. It is also evident from this study that integration of ICT into knowledge administration for the teaching–learning process is more in comparison with Research Methodology Computers can be used extensively for educational administration.

National Education Policy 2020: In National Education Policy (2020) briefly describe that The Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role. In the improvement of educational processes and outcome teacher and student both will be tech-savvy and entrepreneurs. New current technologies like artificial intelligence, machine learning, block chains, smart boards, hand held computing devices, adaptive testing for student development, and other forms of educational software and hardware etc. will not just use to learn the students, beyond they will conduct research both technological as well as educational fronts.

II. Need for the study

The use of ICT in education will make a difference in improving the teaching, learning and research process through the systematic integration of the use of ICT into existing educational curriculum. Higher education systems have grown to a larger extent in the last few decades to meet the demands of quality education for all. This aspect has further gained its importance due to swift advancement in the information and communication technology.

IV.Objective of the study

- To know the importance/use of ICT in higher Education with special reference to Self Financing Institutions.
- Role of ICT in education at self Financing Institutions in the areas of teaching, learning, research and administration.
- To understand the benefits of adoption of ICT.

V.Research Methodology

The present study is based on secondary sources like Books, Research Journals, Thesis, and websites, etc. A descriptive study was carried out based on primary and secondary data from various journals, websites etc.

VI. Results

The study found that ICT integration significantly enhanced access to learning resources for both students and faculty. The use of online libraries, digital textbooks, research databases, and e-learning platforms has broadened the range of educational materials available. Students can access resources at any time and from any location, particularly benefiting those in remote areas.

Many faculty members have adopted multimedia presentations, virtual labs, and interactive tools (e.g.,simulations, virtual reality) to enrich their teaching methods. The research highlighted that ICT has facilitated more dynamic and engaging teaching strategies, which cater to various learning styles and foster better student participation and understanding.

Institutions that implemented ICT strategies reported improved student engagement and learning outcomes. The research indicated that students in ICT- enabled classrooms performed better in assessments and exhibited higher levels of critical thinking and problem-solving skills.

The study found that the use of adaptive learning technologies and personalized learning pathways helped cater to the unique needs of individual students. By offering customized resources, assignments, and feedback, ICT enabled students to progress at their own pace and receive targeted support.The study revealed a generally positive response from students regarding the use of ICT in education. Students reported increased satisfaction with the availability of online learning resources, access to flexible learning options, and the ability to engage with instructors and peers via digital platforms.

ICT tools such as online discussion forums, webinars, and virtual peer interactions have increased student engagement, especially in self-financing institutions where students may often be more diverse in terms of age, geographical location, and socio- economic background.

The research suggests that the role of ICT in self-financing institutions will continue to grow, with a shift towards more interactive and personalized learning experiences. The future may see increased adoption of Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR) in teaching and learning.The study emphasizes the need for policies to address the infrastructure challenges faced by self-financing institutions, especially in rural and under served areas. It recommends that governments, private organizations, and educational technology providers collaborate to provide affordable ICT solutions to these institutions.Although initial investments in ICT infrastructure were noted to be high, the long-term cost benefits were significant. The research revealed that self-financing institutions that embraced online learning and digital resources could reduce the costs associated with physical infrastructure (e.g., classrooms, textbooks) and administrative staff.A significant number of self-financing institutions reported an increased adoption of e-learning platforms such as Learning Management Systems (LMS). Online courses, blended learning, and Massive Open Online Courses (MOOCs) have gained popularity, enabling flexible learning schedules for students, especially those balancing studies with other commitments.The results reflect the varied ways in which ICT has influenced teaching, learning, administrative processes, and overall institutional development in these institutions. Educational institutions should make them a matter of priority and budget for them; Necessary action must be taken to address the prohibitive cost of Internet use by making average charges affordable to students and lecturers of higher educational institutions in order to enable users enjoy maximum use of the services. Telecommunication companies can come to the aid of higher education institution by providing reasonable and affordable prices as part of their corporate social responsibilities to the education sector and the society; Government should mandate the development of ICT policy and strategic plans at institutional level;Government should review the national ICT policy document to mandate the teaching and use of ICT not only in higher educational institution but even at primary and secondary levels, if possible; Government and ministries in charge should embark on making provision for adequate and up to

date teaching and learning materials especially the computers, ICT tools and computer aided learning for both the lecturers and students as this process will help students to get more attracted to ICT as a discipline in schools and universities with the aim to make e-learning effective and efficient; One student to one computer ratio must be implemented in all the universities, hence, government should support the universities with the necessary financial resources or fund to promote e-learning system in the tertiary institutions; Educational institutions should make the use of ICT in the classroom compulsory and must be encouraged as part of the teaching and learning methodology. Capacity building: develop training programs to enhance the ICT skills of educators, administrators and support staff, and as well, encourage continuous professional development and provide resources for learning new technologies and pedagogical approaches. In recruiting new lecturers, computer literacy must be one of the prerequisite criteria; this will increase the number of lecturers with technical know-how in order to promote ICT in the teaching methods; Research and innovation: tertiary institutions should encourage research and innovation among faculty members and students by providing incentives for individuals who develop new technological innovation and research; and Universities must embark on new curricula development and collaboration with IT related industries and international organizations to jointly develop IT related curricula that meet international standards.

VI. Discussion

Arranging proper training and regular workshops on ICT for the teachers: Teachers should be properly trained to use the ICT facility in their schools. Regular workshops on the use of latest technology in teaching are needed also. □ Proper implementation of ICT infrastructure: All schools should have internet connection and computer facility for the learners. There should be no disparity between the rural and urban institutions in this concern. There should be adequate e-enabled learning contents in every institution. Support from the higher authority: Higher authority should encourage English teachers to use ICT in their teaching. Many teachers complain about the lack of support from the higher authority. Using flexible e-enabled learning content for the weaker learners: There should be enough space for the weaker section of learners in teaching. Arranging flexible e-enabled learning contents for them will be useful. □ Use of audio-visual aids: In teaching, use of audio-visual aids will develop listening and pronunciation skills. It will also help the better understanding of the language. Group work method through ICT: To develop the communication, ICT enabled tasks can be given in groups, such as creating any power point presentation of any grammatical lesson. This will also help to increase the socialization process.

VIII. Conclusion

After conducting this descriptive study, at the conclusion we must say that every stages of education process, mainly Higher Education must go on through the use of ICTs various components. In the era of current globalization of population, information and knowledge, use of technology make us comfortable and adjustable with the society and so on. Without use of technology we can't survive in our daily life. Education is not exceptional. In conclusion, there should be concurrent training and re-training of the teaching personnel to be abreast of the ever-evolving information technology to boost students' academic performance, the paper recommended that students with internet mobile phones and other gadgets should be encouraged to use the internet to supplement their academic research in their various fields of study rather than the usual chatting, and catching funs with friends and family all the time. Similarly, students should reduce their commitment to social media to allow them to have adequate time for their studies among others. There should be a provision of standard IT infrastructure, a responsive e-learning platform, and strong internet connectivity for effective service delivery and quality assurance.

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