

USE OF ICT FOR EFFECTIVE MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS

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Abstract

There is need to develop Management information system for educational Administration for secretarial practices, admission, time-space – Personal Management, Institution, Learning Resources Management, Evaluation and placement. And also, the need for improving the quality and equity in higher education in the context of globalization needs an emphasis. In this context, it is the current state of humanity's knowledge of how to combine resources to produce desired products, to solve the problems, fulfil needs; it includes technical methods,

skills, processes, techniques, tools and raw materials. This calls for a number of initiatives covering admission criteria, fee structure, curriculum change, reform in evaluation, reorganization of administrative structure, integrative classroom teaching, and medium of instruction and decentralization of decision making.

Key words: Information Communication Technology, Knowledge, Quality, Network, Management, Professional Development, Education, Society.

INTRODUCTION

Information is the backbone to every Educational Institution. Technology is the application of organized knowledge to practical tasks by organizations consisting of people and machines. Technology is more than applied science where, non-scientific knowledge such as crafts, design, tacit knowledge, and managerial skills are involved. Secondly, technology is about practical tasks; whereas, science is about understanding. Third important factor is technology always involves people and their social systems. So, when we use technology in education, remember that process, approaches, rules, and ways of organizing things are just as important as the devices with coloured lights and screens that we call hardware.

WHAT IS INFORMATION COMMUNICATION TECHNOLOGY?

Information Communication Technology means much more than the Internet. ICT empowers individuals and organizations to harness the power of digital resources, leading to increased productivity and advancements in modern society; the developing world. Only internet families and vendors claim that the internet vendors obsolete all proceeding technologies, books, blackboard, film, radio, television, programmed learning and so on.

ICT AND MANAGEMENT/ADMINISTRATION

Management and administration are distinct concepts. A straightforward distinction can be made by stating that management involves making the correct decisions, while administration focuses on executing tasks correctly. Computers play a crucial role in administration due to their speed, precision, and consistency. They are invaluable assets in managing complex systems like large-scale distance learning, such as open learning programs, which heavily rely on information and communication technology (ICT). However, the utilization of IT in management is somewhat restricted, primarily due to the planning cycle's limitations. Whereas, implementation and evaluation requires repeated human impact and cannot be automated. However, the digital transformation of higher education is essential to meet the evolving needs of students, faculty, and staff while ensuring efficient and effective management.

ICT makes resources more abundant, open and accessible if facilities allow to information. Knowledge is not developed in schools alone, but also available at home and in "Internet cafes" in abundance and vast. The traditional classroom is this where a group of pupils together with a teacher are available to each other in the same place at the same time for "learning activities". Whereas it is totally different in the other form where all are at different moments in different places. The reality is that the training institute is not a closed world now. It can communicate with the external world, other institutions, and experts from the other part. This may be known as e-Education which is not replacing the traditional education.

CHANGING FACE OF HIGHER EDUCATION

In the changing world order, like economy, industry and trade, the Indian higher education also stand exposed to the advent of globalization, Information Technology and W.T.O.

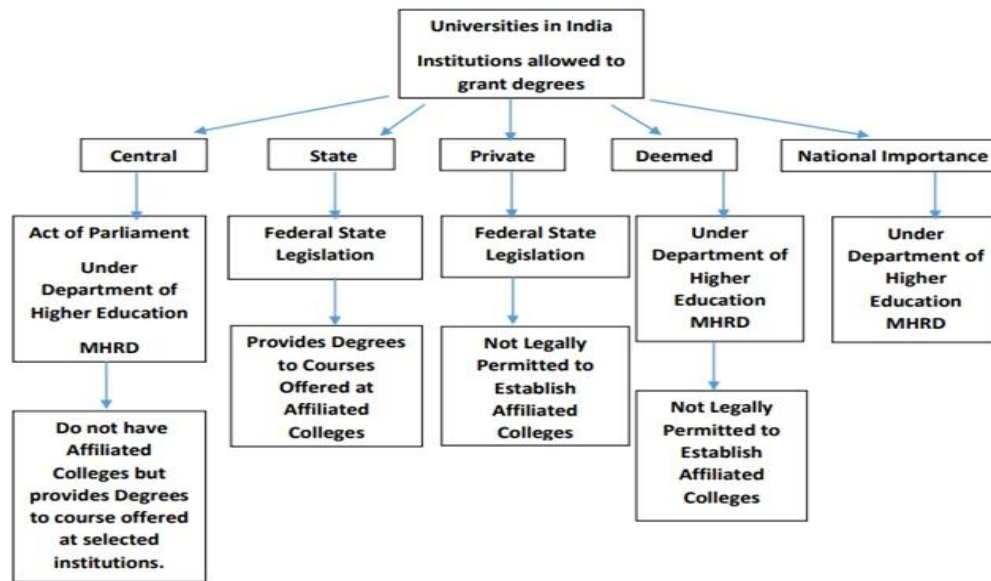
regime? The IT propelled knowledge revolution has opened up several possibilities and potentialities for human kind. Higher education is undergoing sweeping changes. Besides, the international exposure has reinforced the quest for quality and integration with global trends and standards. The quality as well as competencies of the higher education products is strongly linked to the employment potential in Indian scenario as the Academic degrees are considered the pathways to prosperity.

Higher Education is fast losing its status as social service sector. As a result, higher education is moving from government funded to market. In the context of market orient education courses at degree level have been restructured, Andhra Pradesh is a case in point. Recently, History as subject was wound up at +2 level. Same fate may usher on other social sciences like philosophy, sociology and political sciences. Another notable consequence of the marketisation is a set of new courses have been increased with high fee-structures, several professional courses are available in self-financing and self-sufficient institutions to those who can afford them.

Regulatory Framework Of Higher Education In India



STRUCTURE OF HUGHER EDUCATIONAL INSTITUTIONS



HIGHER EDUCATION AND GLOBALIZATION

Education has always played a key role in fostering economic and social development. Globalization, however, has amplified the rewards reaped from education within the framework of the global economy, while also intensifying the repercussions of educational shortcomings. This paradoxical situation arises because globalization is closely intertwined with the principles of neoliberalism. This predicament extends to the higher education system in India as well, with the most vulnerable and marginalized segments of society bearing the brunt of these changes. The government has gradually relinquished its responsibility for financing higher educational institutions, and it no longer holds exclusive regulatory authority as its support diminishes. In this evolving landscape, private universities are beginning to emerge, and several prospective institutions are seeking recognition as deemed universities. Additionally, experiments with campusless Net Universities and the proliferation of university franchising are taking place.

ICT AS A CHANGE AGENT IN HIGHER EDUCATION

The evolution of higher education in India, combined with the need to sustain and be competitive in a global scenario, requires decisions to be taken quickly and effectively. This has enhanced the scope and complexity of administration, thus making it necessary to adopt different methods of higher education administration. ICT serves as a change agent in higher education. The increasing student population in higher education has accelerated the demand for ICTs to efficiently process, store, and retrieve information. The focus of e-administration in higher education lies in the creation of an efficient electronic management system that optimizes the use of existing resources.

ICT has transformed the traditional concept of teacher-centered learning into student-centered learning. In this evolving paradigm, teachers assume roles as coaches, mentors, and knowledge facilitators. The learning environment now prioritizes real-time problem-solving methods, empowering students to engage actively in their education. Learning involves actively constructing knowledge rather than merely acquiring it, with instruction serving as the means to support this knowledge construction rather than a process of transmitting knowledge.

This research article examines the ways in which ICT plays a pivotal role in higher education institutions, focusing on the following key areas like, *Administrative Efficiency and Streamlining, Data-Driven Decision-Making, Student Services Enhancement, Resource Allocation and Financial Management, Communication and Collaboration, Global Outreach and Online Learning and Security and Privacy.*

Administrative Efficiency and Streamlining: Information and Communication Technology (ICT) enhances the administrative efficiency and streamlining operations for effective management in higher education institutions. ICT solutions such as integrated databases,

cloud computing, and student information systems facilitate seamless data management, reducing administrative burdens.

Online registration, digital document processing, and e-learning platforms streamline student and faculty interactions, saving time and resources. Moreover, data analytics and reporting tools empower administrators to make data-driven decisions, optimizing resource allocation and academic planning. In essence, ICT empowers higher education institutions to operate more efficiently, offering a better educational experience for students while reducing administrative overhead.

Data-Driven Decision-Making: ICT tools enable colleges and universities to collect, process, and analyze vast amounts of data with precision and speed. This data encompasses everything from student performance and enrollment trends to resource allocation and financial planning. By leveraging these insights, administrators can make informed choices that optimize institutional efficiency.

For instance, through predictive analytics, institutions can identify at-risk students and implement early intervention strategies, improving retention rates. Financial models can be fine-tuned using historical data to allocate budgets more effectively. Additionally, ICT facilitates benchmarking against peer institutions, aiding in strategic planning.

Furthermore, ICT ensures data security and accessibility, safeguarding sensitive information while allowing authorized personnel to access it remotely. In an era where competition and accountability are paramount, data-driven decision-making through ICT empowers.

Student Services Enhancement: ICT has transformed the way institutions interact with students, leading to improved services and outcomes. One prominent aspect is the digitization of student records and services. Online portals and integrated systems allow students to access their academic records, register for courses, and receive counseling services more

conveniently. This not only streamlines administrative processes but also provides students with real-time access to critical information.

Besides, ICT facilitates personalized communication. Institutions can employ email, chatbots, and social media to engage with students, offering timely academic advice, career guidance, and support. This level of personalization boosts student satisfaction and retention.

Moreover, data analytics tools enable institutions to gain insights into student behavior and needs. By analyzing data on attendance, performance, and engagement, institutions can proactively address issues and tailor support services fostering greater efficiency, enhancing student experiences, and ultimately contributing to better educational outcomes.

Resource Allocation and Financial Management: In a way ICT tools and systems have revolutionized the way colleges and universities handle their budgets, ensuring greater transparency, efficiency, and strategic planning.

One key benefit of ICT in this context is real-time financial monitoring. Through integrated financial software, institutions can track expenses, revenue, and investments, enabling administrators to make informed decisions promptly. Predictive analytics can also forecast future financial scenarios, aiding in long-term planning and risk management.

Additionally, ICT simplifies procurement and vendor management, streamlining purchasing processes and reducing costs. Cloud-based financial management systems provide accessibility and collaboration across departments, enhancing communication and accountability.

Moreover, ICT aids in fundraising and donor management, helping institutions secure crucial funding for projects and scholarships. Online donation platforms and donor relationship management systems simplify fundraising efforts to optimize their financial resources,

allocate budgets strategically, and maintain fiscal responsibility, ultimately contributing to their long-term sustainability and success.

Communication and Collaboration: ICT tools such as email, video conferencing, and collaboration platforms enable seamless communication among faculty, staff, and students, irrespective of geographical distances. These technologies promote efficient information sharing, facilitate virtual meetings, and support collaborative projects, fostering a more connected and engaged academic community. Furthermore, ICT systems often integrate calendars, document sharing, and task management features, streamlining administrative processes and enhancing productivity. In essence, ICT empowers higher education institutions to bridge communication gaps, foster collaboration, and ensure that information flows smoothly, contributing to more effective management across campus.

Global Outreach and Online Learning: ICT has opened doors for institutions to extend their educational reach beyond geographical boundaries, offering diverse opportunities for growth and learning.

Through online learning platforms and virtual classrooms, ICT allows institutions to offer courses to a global audience, promoting accessibility and inclusivity. These platforms also facilitate effective management by automating administrative tasks like registration and grading, reducing administrative burdens.

Additionally, ICT enables institutions to engage with international partners, fostering collaborative research projects and student exchange programs, enhancing the global reputation and influence of the institution. ICT supports efficient data collection and analysis for assessing the impact and effectiveness of global outreach efforts and online learning programs. This data-driven approach aids in making informed decisions and optimizing resources.

Security and Privacy: Robust ICT infrastructure and cybersecurity measures safeguard sensitive data, including student records and financial information, from unauthorized access and cyber threats.

Identity management systems and encryption technologies protect the privacy of students and staff, while access control mechanisms ensure that only authorized personnel can access critical systems and data. Additionally, ICT enables real-time monitoring and threat detection, allowing institutions to respond swiftly to security incidents.

Furthermore, privacy-enhancing technologies enable compliance with data protection regulations like GDPR and HIPAA, ensuring that institutions manage data responsibly and ethically. In summary, ICT is integral in maintaining the security and privacy of sensitive information, fostering trust, and effective management in higher education.

CHALLENGES OF ICT

Infrastructure for ICT Support and Resource Limitations: To harness the potential of ICT effectively, it's crucial to have access to equipment that isn't uniformly accessible across all educational institutions. Furthermore, ICT demands the use of current hardware and software. Another essential prerequisite for seamlessly integrating ICT into the teaching-learning process is a high-speed internet connection. However, it's disheartening that internet access remains severely limited in many cases.

Budgetary Constraints: The successful integration of technology into educational systems necessitates significant financial investments. ICT-supported hardware, software, high-speed internet, audio-visual aids, and various teaching resources require substantial funding. The efficient utilization of technology relies on the accessibility of both hardware and software resources, ensuring equitable access for teachers, students, and administrative staff.

Unfortunately, these expenses are often prohibitively high and cannot be covered by the stakeholders.

Social and Cultural Influences: The use of English as the predominant language in fields like science, technology, business, interpersonal communication, education, and training can enhance the availability of universally applicable knowledge resources. Consequently, this can broaden the array of educational and training options. Nevertheless, the current scenario reveals that language remains a significant social hurdle to ICT utilization, particularly in rural areas, where the absence of developmentally-appropriate software (DAS) poses challenges for both teachers and students.

Shortage of Expertise: The effectiveness of educational advancements largely hinges on the competence and expertise of teachers. The lack of knowledge and skills among educators stands out as a primary impediment to the adoption of ICT in education, affecting both developed and developing nations. The integration of technology into the curriculum necessitates proficiency in the subject matter, an awareness of student learning processes, and a degree of technical know-how.

Time Constraints: Teachers contend with substantial workloads, with research studies highlighting the shortage of time as a significant obstacle to integrating ICT into the teaching-learning process. Teachers require time for learning the intricacies of hardware and software, planning, and collaborating with peers. Additionally, they need time to devise and integrate technology into their curriculum. Some educators find it challenging to effectively utilize technology in their classrooms, while others may be hesitant due to feelings of anxiety, disinterest, or a lack of motivation.

GAPS AND SYSTEMS ANALYSIS AS A PROBLEM-SOLVING TOOL

The major socio-economic and other changes in the nation that will have profound impact on the higher education sector include:

- Increasing economic integration across the world
- Technological Advancements
- Demographic Shifts
- Economic Challenges
- Policy and Regulatory changes
- Financial Pressures
- Lifelong Learning
- Social and Cultural Shifts
- Environmental changes.
- Health and well-being
- Research and Innovation
- Development in higher education elsewhere in the world

Each institution, mentioned above, comprises several sub-components that are interrelated and interdependent – infrastructure, personnel, instructional resources, programmes, activities etc. This needs for “looking at an institution as a complete organism.” The purpose of systems approach is for solving complex problems. Hence, systems approach is to solve a problem in the context of interrelationship so that impact – adverse or otherwise – of the action in other areas is contemplated and the middle and lower classes. Hiked fees will undoubtedly turn the clock back on the social mobility of these sections.

Very poor students are to be found in the highly priced medical, engineering, and vocational courses, not because they are less intelligent, but because of their weak economic status.

Also, studies show that scholarships always tend to decline in periods of declining overall budgets. For example, the budgetary allocations to scholarships by the government of India have declined drastically during the reform period (Tilak, in the policy Recommendations, NIEPA, P-71). If higher education is left to the whims and fancies of the private sector, the voices of dissent of critique in the social sciences and literatures and of cultural diversity and identity in Indian languages, are bound to be the first casualty.

NETWORKING AS A REMEDY

Networking has opened up the avenues of administrators to establish on-going dialogue. Networking is not only important for management but also for promoting organisation culture and climate. It increases critical measurement of participation which is necessary for both as individual or as a group.

No doubt the organizations are influenced by the changes brought out by ICT and the implications of Networking on Educational Management Administration are as follows;

Excellent Leadership: It is essential to identify the characteristics of leadership, this includes; openness, clarity, well-informed, fair in judgement, a well-developed strategic sense and the capacity to build the staff's commitments to institutional goals. Educational Administrators must secure for their work and their staff, continuing opportunities to learn, in a period of unprecedented technological, socio-economic change and knowledge expansion.

Professional development of personnel: Assessing one's own strengths and identifying their own developmental needs followed by face-to-face workshop, electronic communication, participating needs and priorities are much needed.

Networking and Mentoring: Network between the core participants should be used to develop not only general communication but also to set up structured group discussions and conversations with selected colleagues. An electronic e-mail discussion lists link all

participants. This provides an important program, Opportunities and external possibilities such as conference and appointments. It not only enhances communication among the core participants across the world but also is used to canvas participant's views on the future programme and to elicit comments for organising programmes.

CONCLUSION

There is a student demand for Higher Education to be more accountable and become better instruments to serve the need of the economy by supplying qualified manpower and useful research. Liberalization of our economic policy frame work has led to a strange turn of events for higher education in the country. Financial assistance from the state is being progressively redeemed and the universities and colleges are now being asked to supplement their requirements through their own funding sources. The ecological processes of democracy should yield to be recognized in advance. Social goals like individualization, perfect human being are to be the results and consequent output of the higher education.

ICT also brings about a transformation in the role of educators within the realm of higher education. In addition to classroom instruction, teachers are now expected to take on various responsibilities, serving as virtual mentors for students through electronic media. The incorporation of ICT enhances students' learning experiences, fostering independent thinking and creative communication. This empowerment equips students to build successful careers and lives in an increasingly competitive world. The rapid evolution of technology underscores the ever-growing significance of ICT in education. Thus, the role of ICT in education is evolving and inevitable. It can be concluded that how ICT is employed within the higher education system is a pivotal success factor for progress, teaching, and the transformation of learning processes, benefiting teachers, administrators, and students alike.

RECOMMENDATIONS

To harness the full potential of Information and Communication Technology (ICT) in the management of higher educational institutions, several key recommendations can be considered:

1. **Strategic Planning:** Begin with a comprehensive strategic plan that aligns ICT goals with the institution's overall mission and objectives. This plan should address long-term sustainability, scalability, and adaptability of ICT solutions.
2. **Infrastructure Investment:** Invest in robust and up-to-date ICT infrastructure, including high-speed internet, hardware, and software. Regular maintenance and upgrades are essential to ensure reliability and performance.
3. **Data Management:** Implement effective data management systems to collect, store, and analyze data related to students, faculty, finances, and operations. Data-driven decision-making can enhance efficiency and student outcomes.
4. **Cyber security Measures:** Prioritize cyber security to protect sensitive information and maintain the trust of stakeholders. Regular training and awareness programs for staff and students are crucial.
5. **Integration of Systems:** Ensure that different ICT systems (e.g., student information systems, learning management systems, and finance systems) are integrated to minimize data redundancy and streamline processes.
6. **E-Learning Platforms:** Develop user-friendly e-learning platforms that facilitate online teaching and learning. These platforms should support multimedia content, interactive features, and real-time assessment.

7. **Digital Libraries and Resources:** Create digital libraries and repositories of educational resources to provide easy access to academic materials for both faculty and students.
8. **Communication Tools:** Utilize communication tools such as email, messaging apps, and video conferencing to foster collaboration among faculty, staff, and students.
9. **Student Information Portals:** Implement student information portals that offer self-service options for registration, course selection, and access to grades and transcripts.
10. **Feedback Mechanisms:** Establish mechanisms for collecting feedback from students, faculty, and staff to continuously improve ICT services and adapt to changing needs.
11. **Professional Development:** Invest in training and professional development for faculty and staff to ensure they are proficient in using ICT tools effectively in teaching, research, and administration.
12. **Accessibility and Inclusivity:** Ensure that all ICT resources and platforms are accessible to individuals with disabilities, promoting inclusivity and equal opportunities for all.
13. **Monitoring and Evaluation:** Regularly assess the impact of ICT initiatives on institutional goals and make necessary adjustments based on feedback and data analysis.

By following these recommendations, higher educational institutions can leverage ICT to enhance administrative efficiency, enrich the learning experience, and adapt to the evolving needs of the education landscape while promoting social mobility and equitable access to quality education.

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