Globalization And Higher Education Institutions: Opportunities and Challenges for Academic Institutions in Implementing ITC

Dr. K. A. Arokiaraj[1], Renjith M[2], Dr. M. S. Sibi[3], Dr. R. Tamilselvi[4], Dr. K. Prakash[5], Dr. Chandrika Reddy[6]

Assistant Professor, Department of Business Administration, Mother Gnanamma Women's College of Arts and Science, Varadarajanpet, Tamil Nadu, India. arovino27@gmail.com

Assistant Professor, Department of Computer Science, Sahrdaya College of Advanced Studies, Thrissur, Kerala, India. renjithm222@gmail.com

Assistant Professor, School of Management, Sri Krishna College of Technology, Coimbatore, Tamilnadu, India. drsibi.ms88@gmail.com

Assistant Professor, Department of Business Administration, Sri Sarada Mahavidyalayam Arts and Science College for Women, Kallakurich, Tamilnadu , India. dakshina0209@gmail.com

Post Doctoral Fellow (RUSA 2.0), Department of Business Administration, Annamalai University, Chidambaram, Tamilnadu, India. thamizh.prakash.2020@gmail.com

Associate Professor, Department Name of MBA, St Francis College, Bangalore, Karnataka, India. chandrikapreddy@gmail.com

ABSTRACT

India's educational path has changed dramatically over the years, moving from traditional mentoring and learning practices to creating the second-largest higher education system in the world. The swift development of Information Technology (IT) has accelerated this shift and brought about significant adjustments in the fields of education, services, employment, and business operations. By removing prior barriers, the integration of information, technology, and communication (ICT) within the educational domain has significantly transformed access to learning resources, knowledge, and information. The Covid-19 pandemic's outbreak sped up the adoption of ICT and made it necessary to switch from traditional in-person instruction to remote learning methods during lockdowns. This shift brought with it a multitude of opportunities and difficulties in addition to broadening the scope and adaptability of postsecondary education. This study carefully analyzes the state of IT integration in higher education today, outlining both the benefits and drawbacks of this approach. The study used a quantitative methodology, with questionnaires serving as the main methodological instrument. 86 instructors connected to an Indian university took part in the survey as responders. This study offers important insights for policymakers, educators, and stakeholders to manage the difficulties of the integration in higher education by critically analyzing both the benefits and obstacles. The ultimate goal is to support strategic planning and well-informed decision-making to fully utilize ICT for the advancement of higher education in India and abroad.

Keywords: Globalization, Higher Education, Opportunities, Challenges, ITC

1.   INTRODUCTION

ICT has had a profound impact on society, transforming people's lives, careers, and ways of thinking. In order to prepare students for participation in a "knowledge society," educational institutions are required to incorporate it into their curricula. Teachers, who are acknowledged as key players, are essential in utilizing it to create dynamic and proactive learning environments [1]. The abundance of tools that current technology provides to improve the quality of teaching and learning is the driving force behind the broad adoption of technology in contemporary culture, especially in educational settings. Its integration is the deliberate use of technology to improve teaching and learning [2]. It makes information and resources more accessible to everybody, which improves student learning outcomes and pedagogical approaches. Moreover, ICT fosters capabilities critical for navigating a globalized world by giving students the fundamental skills they need to succeed in the twenty-first century. Students who acquire these skills will be better equipped to face problems in the future and make valuable

contributions to a workforce that is increasingly international [3]. A key component of strategic planning is the efficient integration of it into the curriculum, which guarantees optimal returns on technology investments and boosts national competitiveness. However, because technology is dynamic, integrating it into education presents difficult obstacles. To promote growth and progress in educational practices, strategic planning for ICT integration is essential.

2.   ITC INTEGRATION IN EDUCATION

ICTs have become the cornerstone of modern industrial civilization due to their fast spread. Knowledge of fundamental concepts and abilities, as well as proficiency with technology, have been universally recognized as critical competencies. They are ubiquitous in today's cultures; they are used in every aspect of daily life, from financial services, libraries, and media access to professional efforts and phone and email contact [4]. ICT is a broad term that refers to a variety of technologies, such as computers, software, networks, and satellite linkages. These technologies enable previously unheard-of methods for accessing, analyzing, creating, exchanging, and using data, information, and knowledge. A major paradigm shift has occurred as a result of the ICTs' rapid expansion, advancing human society from the information technology age into the knowledge age [5]. Given the transformative potential, educators must acquire a variety of abilities in order to use it effectively in educational settings. These competences include comprehending the policy aspects of its integration in teaching and learning, mastering educational paradigms that leveraging. It also improves the efficiency of teaching and learning while streamlining administrative duties. They support teacher professional development through external networks, facilitate information access outside of the classroom through the internet, help students acquire critical skills for future education and employment, and have the power to completely change the way that learning and teaching are done [6]. This thorough integration of ICTs into education highlights how important they will be in influencing how people learn in the future and getting them ready for the knowledge-driven economies of the twenty-first century. According to the research [7], in order to improve technical performance and promote broader adoption in educational settings, both teachers and students must learn to trust technology. To successfully incorporate the tools into the way that education is delivered, teachers in particular must be competent and confident in their use of a variety of technologies. As such, educators had to obtain a wide variety of technical and interpersonal abilities, including the use of chat rooms, word processing, creating web pages, etc [8]. The literature, taken as a whole, highlights the diverse ways in which ICTs are changing educational practices and improving learning opportunities both locally and globally.

3.   OPPORTUNITIES OF DIGITAL LEARNING IN HIGHER EDUCATION

HEIs can benefit greatly from digital learning, mainly because it is not reliant on any one location. With systems like Moodle, Blackboard, and Google Classroom as well as interactive applications like Visme and Zoom, this improved accessibility makes it possible for HEIs to offer more digital information and encourages smooth communication between students and teachers [9]. Additionally, because digital learning is so affordable, educational institutions can save a lot of money and time by reallocating resources to improve the quality of education as a whole. Students are also spared the costs of moving in order to pursue higher education because of its affordability. There are a lot of opportunities in the field of HEIs in India that have the potential to improve educational outcomes and bring about dramatic changes [10]. Massive teacher empowerment programs, which seek to provide educators with the tools and resources needed to successfully traverse changing pedagogical contexts, present one such possibility. There's a chance to dismantle language barriers, make learning resources more accessible, and promote inclusivity among linguistically varied communities [11]. Institutions can use cutting-edge language-learning platforms and multilingual teaching materials to better serve students from diverse linguistic backgrounds and foster more inclusive learning environments. Furthermore, outreach projects provide a viable means of equalizing opportunities and expanding educational access to underprivileged and marginalized areas. Moreover, adopting inclusive education's tenets has enormous potential to promote a more varied and equitable higher education ecosystem. Thus by taking advantage of these chances, India can promote a more vibrant, diverse, and internationally competitive higher education market that is able to adapt to the changing requirements of students and the general public. Within the HEIs, private initiatives offer a substantial opportunity to spur innovation and increase the scope of educational offerings [12, 19]. Partnerships between public and private organizations can encourage the creation of innovative curricula, industry-aligned programs, and upgraded infrastructure, which will improve graduates' employability and enrich the educational landscape. Furthermore, the extensive availability of

digital learning resources, supported by programs like SWAYAM and the National Digital Library in India, makes it easier for students and educators to collaborate and connect globally [13].

4.   CHALLENGES OF DIGITAL SHIFT IN HIGHER EDUCATION

The idea that India may become a knowledge society via the use of ICTs is becoming more and more popular. But the question is raised: can technology raise the nation's HEIs standards on its own? Digital technologies provide a number of obstacles that could prevent effective teaching and learning processes, even while they also hold the promise of bringing fresh and sophisticated learning activities to higher education [14,18]. But some obstacles are there like, HEIs must, however, face and overcome obstacles pertaining to infrastructure, sustainability, financial investment, network growth, intellectual property rights, and demographic diversity if they are to reach their full potential [15]. HEIs can build inclusive, creative, and technologically advanced learning environments that enable teachers and students to succeed in the digital era by proactively tackling these issues [16, 20]. The National Education Policy (NEP) of 2020 places a strong emphasis on technology-enabled education, yet many Indian educational institutions lack the infrastructure needed to support programs for online learning. The integration of ICTs into the educational environment is made more difficult by this opposition, which calls for extensive methods of faculty training and capacity building [17]. Thus it is essential to address difficulties related to infrastructure development, funding, opposition to change, technical obsolescence, digital literacy, and accessibility.

5.   RESEARCH METHODOLOGY

5.1.   Sampling

Below is stated Demographic profile of HEIs teachers using ITC in their daily class room

Table 1: Demographic Profile

Demographic	Number of Teachers
Gender	
Male	50
Female	36
Age Group	
20-30 years	15
31-40 years	30
41-50 years	25
51-60 years	16
Academic Rank	
Assistant Professor	40
Associate Professor	30
Professor	16
Years of Teaching Experience	
Less than 5 years	10
5-10 years	25
11-20 years	30
Over 20 years	21
Department	
Science	25
Humanities	30
Engineering	20
Social Sciences	11

5.2. EFA of opportunities for Indian HEIs:

The opportunities variable produced interesting results from the exploratory factor analysis that was carried out. As expected, two unique factors surfaced, explaining 74% of the difference between them. A KMO test statistic of 0.856, which indicates a high degree of sample adequacy, supported this strong explanatory power. Furthermore, the non-randomness of the correlation matrix was highlighted by the importance of Bartlett's Test of Sphericity, which supported the validity of the factor analysis results with a chi-square value of 2016.876 and 16 degrees of freedom. Table 2 rotational matrix provides a thorough illustration of the factor loadings, highlighting the relationships between the variables and their corresponding factors. This graphic is a useful tool for understanding the underlying structure and pinpointing important opportunities related to Indian HEIs

Table 2: EFA of Opportunities for HEIs

Rotated Component Matrix	Factor Loadings
Massive Teacher Empowerment	0.822
Breaking Language Barriers	0.800
Equalization of Opportunities through Outreach Programmes	0.769
Private-Initiative	0.711
Inclusive Education	0.709

The opportunities for Indian HEIs items have both converged and separated as conceptualized and operationalized, contributing to both convergent and divergent validity, according to an analysis of the component loading in the rotational matrix.

5.3. EFA of Challenges for Higher Education

The challenges variable's EFA identified two conceptually distinct components that account for 74% of the variation and yielded a KMO test value of 0.876. Additionally, Bartlett's Test of Sphericity had a chi-square of 18082.547 and 14 degrees of freedom, and it was significant (.000). Table 3 displays the factor analysis rotated matrix findings.

Table 3: EFA of Challenges for HEIs

Rotated Component Matrix	Factor Loadings
Transforming Higher Education Institutes into E-Hub Resources	0.806
Sustainability	0.696
High Capital	0.820
Developing Network-enabled Delivery Infrastructure	0.736
Open Access and Issue of Intellectual Property Right	0.853
Demography	0.762

Upon analyzing the factor loading in the rotational matrix of Challenges for Higher Education, it is evident that the items have both converged and separated according to their conceptualization and operationalization, hence supporting both divergent and convergent validity.

Table 4: Internal Consistency of Opportunities for HEIs

Constructs & Items	Item-Total Correlation
Opportunities For HEIs	**α=0.863**
Massive Teacher Empowerment	0.853
Breaking Language Barriers	0.820
Equalization of Opportunities through Outreach Programmes	0.819
Private-Initiative	0.846
inclusive education	0.833

Table 5: Internal Consistency of Challenges for HEIs

Constructs & Items	Item-Total Correlation
Challenges for HEIs	**α=0.861**
Transforming Higher Education Institutes into E-Hub Resources	0.844
Sustainability	0.844
High Capital	0.819
Developing Network-enabled Delivery Infrastructure	0.814
Open Access and Issue of Intellectual Property Right	0.839
Demography	0.833

All constructs had Cronbach's alpha values of 0.70 or above overall, indicating excellent internal consistency for every variable the study looked at. To assess the reliability of measurement scales, Tables 4 and 5 offer interpretation guidelines for Cronbach's alpha. These results confirm the measuring model's resilience and instill confidence in the reliability of the study's results.

6. CONCLUSION

India, a country well-known for its rich cultural and geographic variety, faces severe economic inequality that makes it difficult for many people to attend online education. The accessibility of online education efforts is limited by ongoing issues with power supply, internet connectivity, and the cost of necessary technology instruments. While integrating technology into higher education has the potential to improve student results and teacher productivity, it is crucial to address fundamental concerns including infrastructure development, teacher preparation for digital competences, and student concerns. Furthermore, digital transformation in HEIs involves more than just technology improvements, it involves multifaceted adjustments that affect the academic programs, administrative procedures, and institutional culture. It is critically necessary to have an all-encompassing, institutional strategy to successfully manage these complexities. Many of these issues can only be resolved with the effective execution of the NEP of 2020, highlighting the necessity of strong and all-encompassing approaches. HEIs in India face a dual problem and opportunity due to the country's youthful demographic, which calls for creative solutions to meet the varied requirements of their student body. More government support that is in accordance with NEP 2020's goals is essential to achieving the vision it outlines. India can use technology to address educational disparities and promote inclusive, accessible higher education opportunities for everyone by giving infrastructure development, teacher training, and student support initiatives top priority.

REFERENCE

1. Benavides, L. M. C., Tamayo Arias, J. A., Arango Serna, M. D., Branch Bedoya, J. W., & Burgos, D. (2020). Digital transformation in higher education institutions: A systematic literature review. Sensors, 20(11), 3291.
2. Akilandeeswari, S. V., Nagpal, P., Vinotha, C., Jain, K., Chatterjee, R., & Gundavarapu, M. R. (2024). Transforming E-Commerce: Unleashing the Potential of Dynamic Pricing Optimization through Artificial Intelligence for Strategic Management. Migration Letters, 21(S3), pp. 1250-1260. ISSN: 1741-8984. ISSN: 1741-8992
3. B. Krishna Kumari, V. Mohana Sundari, C. Praseeda, Pooja Nagpal, John E P, Shakti Awasthi. (2023). Analytics-Based Performance Influential Factors Prediction for Sustainable Growth of Organization, Employee Psychological Engagement, Work Satisfaction, Training and Development. Journal for ReAttach Therapy and Developmental Diversities, 6(8s), 76–82.
4. P Nagpal (2023). The Impact of High Performance Work System and Engagement. Business Review. Vol 17 (1) 57-64, ISSN 0973- 9076
5. Bhattacharya, I. & Sharma, K. (2007). India in the knowledge economy - an electronic paradigm, International Journal of Educational Management Vol. 21 No. 6, pp. 543–568.
6. R. Bhattacharya, Kafila, S. H. Krishna, B. Haralayya, P. Nagpal and Chitsimran, "Modified Grey Wolf Optimizer with Sparse Autoencoder for Financial Crisis Prediction in Small Marginal Firms," 2023 Second International Conference

on Electronics and Renewable Systems (ICEARS), Tuticorin, India, 2-4 March 2023, pp. 907-913, doi: 10.1109/ICEARS56392.2023.10085618

7. Shrivastava, S. K., & Shrivastava, C. (2022). The Impact of Digitalization in Higher Educational Institutions. International Journal of Soft Computing, (2), 7-11

8. Madhusudhan R. Urs. & Pooja Nagpal., (2019). A study on Determinants and Outcomes of Job Crafting in an Organization; Journal of Emerging Technologies and Innovative Research, 7,(15). 145-151. ISSN: 2349-5162.

9. Drăgan, M., Ivana, D., Arba, R. (2014). Business Process Modeling in Higher Education Institutions. Developing a Framework for Total Quality Management at Institutional Level. Procedia Economics and Finance, 16, 95-103.

10. J. Divya Lakshmi, P. Nagpal.,et al., (2021). Stress and Behavioral Analysis of Employees using Statistical & Correlation Methods. International Journal of Aquatic Science 12(01), 275-281.ISSN: 2008- 8019 2021

11. G. Gokulkumari, M. Ravichand, P. Nagpal and R. Vij, "Analyze the political preference of a common man by using data mining and machine learning," 2023 International Conference on Computer Communication and Informatics (ICCCI), Coimbatore, India, 2023, pp. 1-5, doi: 10.1109/ICCCI56745.2023.10128472.

12. S. Neeru (2009). ICT in Indian Universities and Colleges: Opportunities and Challenges, Management and Change, Vol. 13, No. 2, 2009, pp. 231 – 244.

13. Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID19 pandemic. International Journal of Educational Research Open, 1, 100012.

14. S. H. Abbas, S. Sanyal, P. Nagpal, J. Panduro-Ramirez, R. Singh and S. Pundir. (2023). "An Investigation on a Blockchain Technology in Smart Certification Model for Higher Education," 10th International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, India from 15-17 March 2023, pp. 1277-1281.

15. Sengupta, S., & Haldar, P. K. (2014). Role of Leadership in Governance of Higher Education. In Governance of Multicultural Societies: Issues and Trends (pp. 175-183). Excel India Publishers.

16. F. A. Syed, N. Bargavi, A. Sharma, A. Mishra, P. Nagpal and A. Srivastava, "Recent Management Trends Involved With the Internet of Things in Indian Automotive Components Manufacturing Industries," 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 27-29 April 2022, pp. 1035-1041, doi: 10.1109/IC3I56241.2022.10072565.

17. Boghian, I., Popescu, C. V., Ardeleanu, R. (2022). Responsible online ethical teaching in higher education during the COVID-19 pandemic. In L. Mâță (Ed.), Ethical use of information technology in higher education (pp. 195–209). Springer. https://doi.org/10.1007/978-981-16-1951-9_13

18. Pooja Nagpal (2022) Online Business Issues and Strategies to overcome it- Indian Perspective. SJCC Management Research Review. Vol 12 (1) 1-10. June 2022, Print ISSN 2249-4359. DOI: 10.35737/sjccmrr/v12/il/2022/151

19. Bruggeman, B., Garone, A., Struyven, K., Pynoo, B., & Tondeur, J. (2022). Exploring university teachers' online education during COVID-19: Tensions between enthusiasm and stress. Computers and Education Open, 3, 1–13. https://doi.org/10.1016/j.caeo.2022.100095

20. Anurag Shrivastava, S. J. Suji Prasad, Ajay Reddy Yeruva, P. Mani, Pooja Nagpal & Abhay Chaturvedi (2023): IoT Based RFID Attendance Monitoring System of Students using Arduino ESP8266 & Adafruit.io on Defined Area, Cybernetics and Systems, DOI: 10.1080/01969722.2023.2166243

21. P. William, A. Shrivastava, H. Chauhan, P. Nagpal, V. K. T. N and P. Singh, "Framework for Intelligent Smart City Deployment via Artificial Intelligence Software Networking," 2022 3rd International Conference on Intelligent Engineering and Management (ICIEM), 2022, pp. 455-460, doi: 10.1109/ICIEM54221.2022.9853119