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Digitalization of Higher Education in Rural Maharashtra State of India

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Abstract

"True education must correspond to the surrounding circumstances or it is not a healthy growth". Mahatma Gandhi. (Sevagram Ashram, 2023) Education is widely accepted as a fundamental resource, both for individuals and society. Education leads to the development of the country in many ways. The real reason behind education is to change the mindset of the citizens and become an effective pillar of the country. Therefore, education has been considered as a significant tool for the upliftment of the people in many developing countries. India has a strong history of education. The significance of education was well recognized in India. Takshashila University is the most famous and the world's first university. Nalanda University was built in the 4th century BC. The oldest of the Upanishads date from around 500 BC. These texts encouraged an exploratory learning process where teachers and students were co-travelers in a search for truth. The teaching pedagogy adopted was based on reasoning and questioning. The present research work is a modest attempt to highlight the changing scenario in imparting quality higher education in the country in general and Marathwada province in particular.

Keywords: Digitalization; Higher Education; Rural Maharashtra State

The prologue

The Higher Education sector of India is the third largest in the world after the U.S. and China in terms of student strength Education is widely accepted as a fundamental resource, both for individuals and societies. Indeed, in many countries, basic education is nowadays perceived not only as a right but also a government duty typically to ensure access to basic education, while citizens are often required by law to attain education up to a certain basic level. (Gump, 2009) The real reason behind education is the change the mindset of the citizens and become an effective pillar of the country's culture and economy too. With this motive, education is being spread worldwide.

India has a strong history of education. The significance of education was well recognized in India. Takshashila University is the most famous and the world's first university. Takshashila University was established in 700 BC and Nalanda University was built in the 4th century BC. In ancient India, during the Vedic period from about 500 BC to 600 BC, most education was based on the Veda (hymns, formulas, and incantations, recited or chanted by priests of a pre-Hindu tradition) and later Hindu texts and scriptures. The oldest of the Upanishads date from around 500 BC. These texts encouraged an exploratory learning process where teachers and students were co-travelers in a search for truth while the teaching methodology used reasoning and questioning. (NITI Aayog, 2020)

The term digitalization refers to the use of desktop computers, mobile devices, the Internet, software applications, and other types of digital technology to teach students of all ages. Digital education makes it easier and more diverse than ever before for students or learners to acquire knowledge. It also cuts down on the amount of time it takes to learn anything new. The government of Maharashtra has implemented digital education via online teaching but, unfortunately without ground level survey by forgetting the relevant factors of greater achievement. The data revealed that the students of rural areas are below the poverty line, always facing drought situations and financial imbalance. There is an urgent need to balance the imbalances in the high-low matrix in education, or else we will only add strength to the widening rich-poor divide thereby opening panoramas for education to all.

This study is done with an outlook to highlight the problems and prospects of Digitalization of Higher Education in Rural Maharashtra State of India. The study is of the Higher Education Institutes (HEI'S) wherein the main stakeholders such as students and faculties are the respondents.

The academic article's aims are as follows

1. To study the education system adopted in higher education in India.
2. To understand the need for change from a traditional education system to a digital system.
3. To access the feasibility and penetration of digital education in the Marathwada province of Maharashtra State.
4. To study the impact of digital education on the faculties and the students.

Research Methodology adopted

The present research work makes use of primary data and secondary data. The primary data is gathered through interview method and observation from the faculties& students from 70 (20%) higher education institutes affiliated with Swami Ramanand Teerth Marathwada University, Nanded, of Maharashtra state of India on a multistage sampling method. The secondary data is collected from books, journals, reports, Newspapers, the Internet, etc.

Scope and confines

The research is confined to only higher education institutes of the selected area. Other and lower-level education (below 12th Std.) are not taken into account. The geographical limitation is restricted to the selected districts Nanded, Parbhani, Latur & Hingoli district which come under the umbrella of Swami Ramanand Teerth Marathwada University, Nanded, of Maharashtra state of India.

Higher Education Scenario in India

The Higher Education sector of India is the third largest in the world after the U.S. and China in terms of student strength. Higher education refers to the study in colleges, universities, and research centers after the completion of class 12th std. or intermediate course. The institutes for higher learning in India follow specific rules as made by the State or the Central Government. There are also some statutory and autonomous bodies functioning in the country to regulate the higher education system in the country. There are 1,113 Universities, 43,796 Colleges, and 11,296 Stand Alone Institutions with 4.13 crore students studying. (All India Survey on Higher Education, 2020) As far as distance education is concerned, the Indira Gandhi National Open University is the largest university in the world by number of students, having approximately 4.12 million students across the globe. (IGNOU, 2015)

Table 1: Scenario of Indian Higher Education

Type of Institute	Numbers
Universities	1,113
Colleges	43,796
Stand Alone Institutes	11,296
Students	4.14 Crore
Teachers	15,51,070
Universities are affiliating i.e. having Colleges. Colleges	298
GER (18-23 Age Group)	27.3%
Ph.D. Awarded	46394

Source: Ministry of Higher Education. (2020) All India Survey on Higher Education 2020-21.

With a breakup of Central, State, Deemed, and Private universities along with many institutions established and functioning under the State Act, and Institutes of National Importance - which include the Indian Institute of Management (IIMs), Indian Institute of Technology (IIT's) and National Institute of Technology (NIT's), etc. are the pioneer institutes among others. But Indian higher education continues to be trapped in the contrast between a few elite institutions and a large number of below-average ones. Higher education is facing several challenges at ground level, particularly in rural hinterlands.

Evaluation of Digital Education

Printing has changed the world of education. Now we are undergoing a new transformation and in this, everything is going digital. Digitization geared up in India around two decades ago when companies with internet websites were considered of great value leading to the flourish of technology-backed empowerment has taken education from the paper to the

pixel, from chalk to pointer. As a pioneer in bringing digital education to the Indian classroom, Education based product/service companies have brought about a radical change in the traditional ways of teaching with their commendable innovations in the digital era. The company takes pride in having a legacy of introducing the latest technology-based solutions to the institutes. Products like Smart Class have become iconic and often synonymous with digital classrooms. The new digital-based educational products have brought about a paradigm shift in the ways of teaching with its excellence.

The digital revolution in India's education sector started with Management institutions like Indian Institutes of Management & Indian Institute of Technology. From providing computer labs to fully computerized libraries, the institutes gradually initiated digital practices. A laptop has become common in institutes and among the students studying business management & engineering courses. Eventually, it penetrated other domains of education too. Exams were no longer limited to pen and paper as they have been replaced by computerized exams. PowerPoint presentations are accepted as projects submitted by students. Learning no longer revolved around the ability to just read, write, and crunch numbers. In the occurrence of digital era, changes such as artificial intelligence, robotics, nanotechnology, etc. had a prosperous impact on the evolution of education. These growth drivers are also the demographics of the business landscape and the skills that are required to meet the demands of the future. As per the World Economic Forum, the demand for technology and computational thinking skills will grow by about a fifth by 2025. These technologies will create 2.1 million jobs by 2020. (The Economics Times, 2020) That is why it is important to incorporate digitization into the learning process which will help students with critical thinking, innovation, collaboration, and problem-solving ability. Along with the primary syllabus, the curriculum should also focus on technology, innovation, general skills, and business management.

Government efforts in boosting digital education in India

In 2019 seemed to be a game-changer for the education industry, with online learning replacing conventional classroom teaching, giving a major boost to education technology. The Government allocated an increased focus on skills building for young people, higher education, and the implementation of the New Education Policy (NEP). As far as the Ministry of Education is concerned, there has been an increase in budget allocation from Rs. 99,311.52 crore (2020-21) to Rs. 1, 12,899.47 crore (2023-24), which is around a 13.68 % increase. (Delhi, 2023)

Teacher training is another central focus area of ed-tech to meet the increasing demand for digital educators, NISHTHA, an initiative to train over 4.2 million teachers across the world, is on the path to achieving its target. Considering the COVID-19 pandemic, Budget 2023-24 is to allocate increased funds to teacher training, and digital infrastructure to enable online examination and skill development initiatives at a mass level.

In making India's *Atmanirbhar self-reliant India*, education and training have an instrumental role to play, and as COVID-19 has shown, digitalization of the education sector is the need for the hour. It will also help to attract FDI in the education sector to make wide-scale digital education a reality, thus enabling India to become an attractive higher education destination on a par with global standards. The country has become the second largest market for E-learning after the US. In India, the online education market is forecast to reach US$ 8.6 billion by 2026. (The Internet and Mobile Association of India [IAMAI], 2019)

Digitalization scenario in rural areas

Digitalization in rural areas is having penetration in terms of people using mobile for communication purposes. But as far as its use of education is concerned the grade is poor. The digital literacy in rural India is that only 21.3 percent have access to desktops. A major number of the rural population in the country needs internet bandwidth with adequate knowledge and affordable internet packages. With the efforts of the Government and companies rendering internet services the penetration of the Internet in India is on the verge of development. The use of mobile phones and internet access is rare and even non-existent in rather remote rural areas. Thus, India needs more investment and more attention to be dedicated to its digital infrastructure. The data given below validates the penetration of reach. The facts and figures are as follows:

1) 34% of schools in India have internet access and facilities. (TOI-Online, 2021)

2) 32 percent of rural Internet users aged 12 yrs. In rural areas. (IAMAI, 2019)

3) 433 million people aged 12 yrs. and above, and 71 million people aged 5-11 yrs. were active internet users in India". (Department of School Education & Literacy Ministry of Education Government of India, 2021)

4) The number of smartphone users is expected to be 859 million and 504 million respectively by 2022. (Shenoy, 2019)

5) Only about 20 percent of students in rural Maharashtra have access to smartphones. (Khanapurkar, 2020)

Table 2: Digital Split in India

Internet Density in India	48.4 per cent Rural India
Rural Population	66 percent
Internet Density	25.3 percent Urban India
Urban Population	34 percent
Internet Density	97.9 percent

Source: Ministry of Higher Education. (2020) All India Survey on Higher Education 2020-21.

The study area is Rural Maharashtra

Maharashtra is the most progressive state in India in terms of industrialization, educational institutions, etc. It is also the financial capital of the country. It is heading up as the fastest-growing state in the country. As far as the education scenario is concerned, particularly the Higher Education Institutes (HEI'S). The state ranks at the top in the country. The divide of HEI'S is urban concentrated. The following table is the pictorial presentation on the existence of HEI in the study area.

Table 3: Types–wise Number of Higher Education Institutes in Maharashtra

Sr. No.	Type of University	Numbers
1	Central University	01
2	Institute of National Importance	06
3	State Public University	23
4	State Open University	01
5	State Private University	11
6	Deemed University	21
7	Deemed University Govt. aided	02
8	Deemed University Private	12
	Total	**77**

Sr. No.	Type of Colleges	Numbers
1	Government Colleges	751
2	Private Colleges (Government aided)	1027
3	Private unaided	2754
	Total	**4532**

Source: Ministry of Higher Education. (2020) All India Survey on Higher Education 2020-21.

In the era of digitalization, the state has taken various initiatives to speed up and boost it. But unfortunately, the rural area of Maharashtra is facing numerous shortcomings in effectively implementing digital education. Following are the major findings based on the responses received from the respondents and observations by the researcher:

Major findings

1) The major findings based on the study are classified into three sections.
2) The students as the main beneficiaries of digital education.
3) The faculties who are supposed to shoulder the digital education to the stakeholders.
4) The geographical conditions/Accessibility & availability. The responses of both respondents are recorded and placed as under:

The students

1) Attentiveness in online classes is low as compared to traditional methods of pedagogy.
2) Due to the consumption of high data the students switch off the video and hence the faculty is in question whether the student is getting the proper content.
3) Most of the students in rural areas are below the poverty line and cannot afford a huge data pack. It is reported that there is one smart mobile and more learners per household to get an education.
4) The major contents in online education are in English language. This barrier is a serious issue for students & the faculties in the study area.
5) The majority of the students in higher education are the youth in the age group of 19-24. As they come out of their teens and explore the world of higher knowledge and practice, they need guidance and role models who can sharpen their knowledge.
6) In the case of technical education, the students are supposed to undergo an internship as a part of the course. This again is a hurdle in digitalization in the education system.

The faculties

1) A further hurdle on the way to successful digitization is the lack of training for the faculty by the government.

2) As the teachers in rural India lack the proper skills to operate digital platforms, it becomes another major factor influencing the transmission of digital education.

3) The absence of availability to regulatory content in regional languages leads to a slow rate of online course adoption as almost 85 percent of the population living in India does not speak English.

4) Faculties also find it difficult to operate online classes with their funds, as many education institutes have not set up a proper platform for digital education.

5) It is sorry to state that very few faculties have permanent jobs, others (nearly 55 percent) are working on (C.H.B) Clock Hour Basis, which is very low remuneration, leads to discouraging them.

6) In many instances the faculty misconstrues digitalization as the audio-visual representation of textbook contents in the form of PPT.

The geographical conditions/ Accessibility & availability

1) One of the primary challenges to digitization is the missing access to digital technology, especially in rural areas.

2) The facilities of advanced technology such as smart classrooms etc. are available in big education institutes only.

3) The examination, particularly the class tests, is being taken online.

4) The speed of the Internet in rural areas is a big hurdle in going for digitization.

5) Uninterrupted power supply is a major obstacle in rural areas especially in the summer and rainy seasons, this is again a pause in the progress of digital education.

6) It is pragmatic that digitalization of education has penetrated Engineering and Management education but is restricted to a few institutes only.

Conclusion

The development of any society depends on its access to information and the same applies to rural India too. It can be said that the digitalization of higher education in the country is the need of the hour. Rather it will be the major education spreader in coming times. Starting Digital education platforms in India is a welcome step in this direction. It is expected that with dedicated leadership, willpower, and control of the government, technology industry, and society, E-learning interventions in rural areas will undoubtedly pave the way towards sustainable growth. This is not possible overnight even though concerns have been shared for decades. All said and done now digitization of education should offer a unique opportunity for classes to masses.

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