

The Evolution and Economic Impact of Online Learning in India: Challenges and Insights

Nirankar Ram Tripathi¹ and Dr. Sarita Karadwal²

¹Research Scholar, Department of Education

²Research Guide, Department of Education

NIILM University, Kaithal, Haryana, India

Abstract: *In India, digital learning and education platforms have long been seen as viable alternatives to traditional classroom instruction. The transition from offline to online education got more competitive and difficult as a result of globalization. The ability to study on a certain web-based platform seems to have improved over the last several decades due to the greater interoperability of online electronic platforms and media. Online learning environments seem to be one such phrase, and it is likely that online learning may apply to any technical terminology used in education. This essay is divided into three sections: the current situation, the difficulties, and the outlook for online education in the Indian economy. In order to determine the problems and difficulties that users may encounter as well as the future of online learning in India, this research study will first attempt to comprehend the contribution of online learning. A conceptual analysis of research based on secondary data and pertinent literature studies is presented in this work.*

Keywords: Online Learning, E-learning Challenges, Digital Education in India

I. INTRODUCTION

Online learning, often known as e-learning, is education that takes place via the internet. Online learning is a kind of distant learning, although it differs from conventional classroom learning. People's lives have been altered by the widespread use of the internet and technological advancements, which have also had a significant impact on a number of industries, including education. To provide pupils a purposeful and ongoing educational experience, Indian institutions have created an online learning platform. Our social life, education, and learning are all heavily influenced by the Internet. Online education offers a wealth of information and possibilities for both the teacher and the student to utilize, since the Internet has grown into a major educational tool. Online education, often known as web-based education or remote education, has grown in importance in many university programs during the last 10 years.

The newest and most widely used kind of distance learning available today is online learning. It has significantly impacted postsecondary education over the last ten years, and the tendency is only becoming stronger. Students' experiences with online learning and how it has altered the role of the teacher. Both synchronous and asynchronous online courses were available. Synchronous learning involves direct communication between students and instructors, while asynchronous learning involves indirect and autonomous communication. The globe has been compelled to continuously develop and alter the spectrum of educational tactics, skills, and knowledge due to globalization and a highly competitive and dynamic environment. We are living in a time of fast change as the new century approaches. This is to stay up with how the world is evolving. Almost every area of economic development has seen an increase in technological complexity, and education is no exception. Massive developments in the education industry have led to a broad demand for education. The transition from offline to online education got more competitive and difficult as a result of globalization.

Of all the electronic technologies, online learning might be hard to describe. While some writers or students disagree with the notion that online learning is "wholly," others favor a particular technological medium or setting. According to some authors, e-learning, distance education, web-based learning, distance learning modes, and online learning are all directly related because they all use electronic technology. They also claim that online learning is the most recent

iteration of distance learning, which uses technology to experience learning. This makes learning opportunities more accessible to students. Other well-known writers discuss online learning's connection, adaptability, and capacity to foster a variety of interactions between teachers and students in addition to its accessibility. In particular, avoid the association between online learning and distant learning as well as traditional learning systems. Benson (2002) makes it apparent that online learning is a more modern and enhanced kind of remote learning. These writers provide their own definitions of the link between online learning and remote education, but they do not guarantee that they do so. Although Nichols (2003) flips the word "e-learning" to refer to the means used to offer the learning experience, he does affirm that the learning management system is largely utilized for online courses and components.

CURRENT SCENARIO

With the Covid-19 epidemic showing no signs of abating, some experts have started hailing technology-driven schooling as the new standard for the next years. The Minister of Human Resources Development, Dr. Ramesh Pokhriyal Nishank, tweeted on April 10, 2020, that during the first lockdown, 1.4 crore people visited the e-learning websites that MHRD had developed. Richa Choudhary, a young employee of Niti Aayog, has made recommendations on how to incorporate technology into the new curriculum (2020).

Harjiv Singh predicts that in the future, online courses will probably have the following advantages: 1) Increased educational accessibility; 2) democratization of information and knowledge; 3) inclusion in learning to progress; and 4) parental participation in curriculum and material improvement (2020). Bulbul Dhawan has said with great satisfaction that many government schools have also gone online in order to preserve learning continuity (2020). However, some people are strongly against kids utilizing computers in the school. Using chalkboards and pencils, many Silicon Valley schools are blatantly low-tech, pushing the notion that "children develop creativity by creating things and attending classes in tree huts."

II. LITERATURE REVIEW

The newest and most widely used kind of distance learning available today is online learning. It has significantly impacted postsecondary education over the last ten years, and the tendency is only becoming stronger. Students' experiences with online learning and how it has altered the role of the teacher. Both synchronous and asynchronous online courses were available. Synchronous learning involves direct communication between students and instructors, while asynchronous learning involves indirect and autonomous communication.

We were able to examine contradictory or conflicting evidence by using a methodical literature study. The systematic literature review technique gathers, analyzes, and assesses a body of literature using a priori criteria. According to Martin, Ahlgrim-Delzell, and Budhrani (2017), a systematic literature review finds, assesses, and summarizes the existing evidence on the chosen issue. To understand cultural problems in massive open online courses (MOOCs), Shahini, Davis, and Borthwick (2019) conducted a comprehensive literature review.

Online education is a new field of study that uses computer-mediated communication to integrate online learning with in-person teaching, according to Harasim (1989). Online education has several features, according to Ascough (2002): (a) it offers a completely different educational experience that is very different from the traditional classroom; (b) communication takes place via computers and the internet; (c) the learner's involvement in the classroom is unique and different; and (d) the social aspect and educational environment can be changed. "Many scholastic educational have had no training and less experience in the use of communications and information technology as an educational instructional tool," according to Donnelly and McAvinia (2012). Thanks to modern technology like the internet, streaming video, online meetings, etc., many students can now afford and access higher education more easily, especially those who would not have been able to do so in a traditional in-class setting (Bianco & Carr-Chellman, 2002). In response, online learning is now favored as a crucial element in the present higher education curricula at all kinds of institutions.

III. RESEARCH METHODOLOGY

Objectives

- To understand the present scenario for online education
- To identify challenges faced by users detrimental to online education

Type of Research -Exploratory

Type of Data

Secondary Source of Data Observations and systematic review of literature

Online Education Market: Overview

The rapid advancement of technology in India has led to notable advancements in online education. With a population of over 1.3 billion and access to high-speed internet and mobile phones as the learning environment, India has a sizable demographic of tech-savvy customers. The low-cost data revolution and the government's digital push have made internet connections more accessible and inclusive. Currently, there are more internet users in India's rural areas than in its cities. In 2019, rural customers outnumbered urban users for the first time. One Ages 16 to 292 accounted for 58% of rural internet users in the first quarter of 2019, indicating a critical access demographic.

Through the use of electronic resources, such as audio, video, e-books, AR/VR, or any other electronic instrument, students obtain their education online. The flexibility to enroll in specialized courses and lower educational costs are just two of the numerous advantages that online learning provides to students. The rising acceptability of cloud-based arrangements and the growing investment speculations by major industry players targeted at improving the security and consistent quality of cloud-based education platforms are opening up more opportunities for schools. Because there are so many service and content suppliers in the market, there is a vast amount of instructional information accessible online.

The CMI research study offers a thorough examination of the factors driving and impeding the online education industry, as well as how these factors will impact demand throughout the projection period. The study also examines competitive evaluations and global prospects for the online education sector.

"The demand for the global online education market was estimated to be worth USD 30 billion in 2021, and it is projected to grow to USD 49 billion in 2022 and USD 200 billion by 2030, at a compound annual growth rate of roughly 23% during the forecast period 2022 to 2030," the most recent research study states. Market businesses are working hard to make internet services speedy and easy to purchase, and network connection is growing. As forecast, the market is likely to grow. Microlearning-related growth patterns and declining infrastructure costs, which are expected to act as assets, have contributed to its strong demand throughout the present projection period.

Because of improvements in the global technological infrastructure, which have allowed individuals and companies to achieve previously unthinkable heights, internet use has dramatically increased. Since everyone may now sign up for online courses, the education industry has surpassed other businesses throughout the digital revolution.

There is still potential for significant rural development, even if there are already more internet users in rural areas than in metropolitan ones. More than 70% of individuals in rural regions still do not have access to the internet, despite its increasing prevalence. Only 25% of Indians have internet connectivity, despite the fact that 66% of them reside in rural regions. The internet density in urban areas, which is closer to 98 percent, stands in stark contrast to this. This will help to increase the overall number of internet users over the next several years as more individuals get access. India's fast urban and rural internet expansion has led to an increase in online education.

By 2021, the online education industry in India is expected to have grown from its 2016 valuation of USD 247 million to \$1.96 billion. 4 By 2015, it is projected that 9.5 million students would be enrolled in paid online courses. Since these figures do not account for the COVID-19 epidemic, it is very possible that the estimates will be inaccurate as more and more education is transferred online.

Highlights on Online Education in India

- **Revenue:** online education in India is targeted to reach up to USD 6.71bn.
- **Growth rate:** it is expected to reveal a yearly growth rate (CACR 2024-2028) of 21.56%.
- **Market volume:** The online learning platform market in India is predicted to have USD 5.50 bn in 2024.
- **Global comparison:** The US is looking forward to generating the most revenue with USD 87,517m in 2024.
- **Average revenue per user:** the online education market in India is expected to amount to USD 35.36 in 2024.
- **Number of users:** in India is expected to reach 287.6m by the year 2028.
- **User penetration:** in India it will be at 13.2% in 2024.
- **Internet Adoption:** India has a 50% internet adoption rate. The number of internet users in India is expected to reach almost 735 million by 2021, which would raise the demand for online education providers.
- **Current government initiatives:** are intended to develop the infrastructure that is required for students to pursue online education. The linked section below contains details about a few of these initiatives, such as the YUKTI portal, SWAYAM Prabha, eBasta, and e-VIDYA.
- **Affordability:** Online courses at the UG or PG level are significantly less expensive than traditional programs; students save on tuition, lodging costs, and travel costs since they have the convenience of finishing the course from home and frequently at their own pace. Several courses leading to credentials are free, and vendors like Udemy have pricing as low as \$11.99 USD.
- **Demographics:** In India, people aged 15 to 408 make up over 46% of the total population. This younger age group is the ideal target audience for online education since they are more likely to accept online formats than older age groups and because the reduced cost appeals to a price-sensitive market.

New Developments in India's Online Higher Education System

The need for upskilling and retraining is driving the demand for certification courses. Between 2015 and 2018, the number of students enrolling in online programs more than doubled. Over 70% of these students learned a new skill or expanded their employment prospects via online learning. Since online models allow current workers to gain these skills without disrupting their workdays, they may be attractive to them.

Since aggressively promoting online learning methods in 2018, the University Grants Commission has allowed a number of institutions to offer a modest percentage of their courses online¹⁰.

By giving them a standardized framework and allowing authorized institutions to offer new courses and certificate programs, the UGC built on this in 2019. These online programs may be compared to their conventional counterparts due to the UGC requirements. By helping to ensure the quality of online programs, this assistance will help to dispel any worries over their efficacy.

This push was reinforced by the COVID-19 pandemic, which hastened the adoption of anything online. In an attempt to provide ongoing education without socially dividing individuals, governments and institutions have significantly expanded their funding for online learning. As more colleges begin to offer online courses, a number of technologies are developing to improve the online model and make it a viable alternative to a conventional classroom.

CHALLENGES OF ONLINE LEARNING

Scholars "believe that there is a relationship between distance education or learning and online learning but appear unsure in their descriptive narratives," according to Moore, Dickson-Deane, and Galyen (2011), who also come to the conclusion that online learning is the hardest to describe. A review of the literature on the methods, benefits, and challenges of learning analytics research was conducted in order to gather and provide a status report on the field.

Accessibility is the primary challenge with online education:

According to a May 2020 study, of India's total population of nearly 138 crore, 56.45 crore utilize the internet. Therefore, it is reasonable to conclude that around one-third of its people do not now have internet connection. Under these circumstances, it is unclear whether online education will be available to all students enrolling at various levels.

- **Technical Infrastructure:** In a survey conducted by QS I Guage, more than 3% of residential internet customers reported cable cuts, 53% reported poor connection, 11.47 percent reported power outages, and 32% reported signal issues. Given the current circumstances, it is unlikely that all students will be able to obtain dependable internet connectivity, which would prevent them from logging in to take online courses. Of those who used mobile hotspots, 40.18 percent reported poor connectivity, 3.19 percent reported power issues, and 56.63 percent reported signal issues (QS I Guage, 2020).
- **Lack of consensus:** However, there is also no consensus over the kind of platform that need to be used for online instruction. The commercial version of a digital platform that enabled seamless class streaming was only available to a limited number of Indian educational institutions at the time. As a result, the quality of these online sessions was below expectations and was unable to maintain students' interest for a long time.
- **Content:** Curiously, technology has never been included into the existing curriculum. Because of this, it is difficult for a teacher to adapt the course content to be more technologically friendly. However, instructors are not equipped to produce digital material. As a result, they have difficulty creating material that is suitable for internet uploading.
- **Resources are scarce:** Not every family member in India has a personal computer or other internet-accessible gadget. Most families share devices like cellphones, laptops, and PCs. Consequently, not every kid in a multi-child household will have equal access to such a device. The optimal choice is determined by a number of characteristics, including need, age, gender, IQ, etc.
- **Expensive:** Both dependable internet access and a student's own device are necessary, and neither is provided for free or at a reasonable fee. While 80 crore people get free grain distribution via the Pradhan Mantri Gareeb Kalyan Anna Yojana, can all students afford these costs?
- **Privacy:** A young kid could not know how to protect their data, in which case their privacy might be violated. On the other hand, in a country like India where people live in small, congested houses, a student may not get a private room \ to study online.
- **Addictive:** The ease of access to technology and the integration of the internet into academics will force students to be constantly online, which over time could lead to addiction for them.
- **Harmful:** Students' eyesight is likely to suffer irreparable harm from prolonged screen use for online coursework. On the other hand, prolonged use of electronic devices when seated is likely to result in neck and back pain. In addition, it is known that the light emitted from the screens of such gadgets interferes with sleep, which over time may result in issues with anxiety, depression, insomnia, vertigo, memory loss, etc.
- **Environment:** created and maintained by online sessions is chaotic and unruly. There is nothing that can be done to change a pupil, regardless of whether they are misbehaving, not dressed adequately, or lack digital literacy.
- **Information, not knowledge:** Online sessions will fall short of imparting knowledge since they only share information devoid of any real-world application. Students just take up information passively. They develop the habit of searching the internet for every question put in front of them, which hinders their originality and critical thinking.

CURRENT PERSPECTIVES OF ONLINE LEARNING

Mobile Education

According to a Stastia (2018) research, 320.57 million individuals accessed the internet using their mobile devices in 2017. This figure is expected to increase to 462.26 million by 2021. The cheap cost of smartphones and 4G internet is the reason for the rise in customers. In order to reduce the digital divide and promote internet use via mobile internet in rural regions, IAMAI expects the National Telecom Policy (NTP) 2018, which focuses on cutting-edge technologies like 5G, to promote higher-quality data services at more affordable prices. According to a Zenith poll, mobile devices will account for 73% of internet use time in 2016.

Investors' Interest

Due to the Digital India campaign, the importance of education in culture, and the falling cost of mobile data, entrepreneurs are making significant investments in online education, which is expected to rise over the next five years. The Chang Zuckerberg Initiative gave \$50 million to Byju's, Bertelsmann India gave \$8.2 million to Eruditus, and Kaizen Management Advisors and DeVry Inc. gave \$10 million to Edu Pristine. The Bill and Melinda Gates Foundation, Google, and Reed Hastings, the man behind Netflix, are among the foundations that sponsor Khan Academy, a non-profit organization.

Blended Model

Online learning and conventional classroom training will eventually overlap. The idea of blended learning combines online digital media with conventional classroom training. Although the student has considerable control over the time, location, route, and speed, both the instructor and the student must be physically present. Both conventional classroom methods and computer-mediated exercises will be advantageous for this paradigm. In the future, online courses on soft skills and practical knowledge will supplement in-person offline teaching in virtual classrooms.

New Curriculum

The most popular online courses right now are those that deal with IT, including big data, cloud computing, and digital marketing. However, in the future, there will be a higher need for a range of courses in unusual subjects including cyber law, forensic science, personality development, photography, and culinary management.

IV. CONCLUSION

Online education has the potential to fundamentally transform education in the future if it can be adopted in collaboration with corporations, academic institutions, and the government. Important curricular changes are required to narrow the gap and guarantee that graduates are ready for the workforce. The use of technology is necessary to transform and improve the educational process. Additionally, to increase their appeal and provide young people in rural India more options, courses have to be developed in a variety of languages. It takes creativity to develop methods for enhancing online learners' social skills. At least half of India's population lives in rural regions and has challenges in meeting their fundamental requirements, including education. In order to accomplish the goal of NEP, the government must take action to provide fundamental requirements. Every person and every kind of educator must be ready to teach online and employ technology in the classroom, according to the future outlook of online education.

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