

## **RESTRUCTURING INDIAN EDUCATION THROUGH MOOCs: A TUDY FROM INDIAN PERSPECTIVE**

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### **ABSTRACT**

The contemporary era witnesses a significant transformation in the delivery of knowledge and expertise in the Indian education system. This paradigm shift is attributed to the integration of Massive Open Online Courses (MOOCs), aiming to revolutionize the traditional methods of education. This study delves into the multifaceted impact of digital teaching on the current standards of Indian education and rigorously examines the challenges that MOOCs encounter in gaining widespread acceptance. The paper also aims to identify the nuanced reasons behind the limited success of MOOCs in India, offering insights into how these challenges differ from those faced in other nations. The research adopts a methodical approach, utilizing simple random sampling techniques to conduct in-depth interviews with 100 respondents, employing a meticulously crafted questionnaire to ensure the reliability and validity of the collected data. The study indicates a noteworthy apprehension among a substantial segment of Indian scholars concerning the appropriateness of open platforms for mastering skills.

However, despite this initial reluctance, the research underscores that MOOCs contribute significantly to enhancing the quality of learning, thereby augmenting students' knowledge base and preparing them for future academic and professional advancements. The study also delves into a comprehensive exploration of the challenges faced by MOOCs in India, providing a nuanced understanding of why these online courses may not achieve the same level of success as witnessed in other countries. Through a careful analysis of these challenges, the study contributes to the ongoing discourse on digital education in India and offers valuable insights for policymakers, educators, and stakeholders seeking to navigate the evolving landscape of education in the digital age. In essence, this research sheds light on

**the dynamic interplay between digital automation and traditional educational norms, shaping the future trajectory of Indian education.**

**KEYWORDS: Automation, Digital Platforms, MOOCs, Online Certification, Open Learning Resources.**

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## I. INTRODUCTION

The concept of MOOCs is increasing rapidly as technological advancements are paving their way through globalization. MOOCs are a potential source of gaining multiple skills and getting insights into one's specialized area of interest. They have proved to be successful in transmitting relevant concepts and knowledge conspicuously. MOOCs are vigorously competing with the current teaching standards and practices by digitalizing the mode of education and providing bizarre courses at just a click of the button. This transformation will undeniably affect the education scenario in the long run. The acronym MOOC stands for Massive Open Online Course. These courses are similar to distance learning education and are served by highly reputed institutes throughout the world. Such courses can be accessed easily by anyone after complete registration. MOOCs focus on promoting conjoint participation in open courses across countries via the web. MOOCs provide video lectures, readings, problem assignments, case studies and discussion forums for doubt clearing.

In the MOOC Model for digital practice (2010), "A MOOC is an online course with the option of free and open registration, a publicly-shared curriculum, and open-ended outcomes. MOOCs integrate social networking, accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organize their participation according to learning goals, prior knowledge and skills, and common interests." The term MOOCs came into existence when Stephen Downes and George Siemens developed a course entitled Connectivism and Connectivity Knowledge in 2008. Their sole motive was to encourage student involvement in an online learning environment with the use of simple online tools to enrich their educational experience. As a result, 25 students enrolled for the course on the campus of the University of Manitoba and about 2300 participated online from around the world. Amid 2011, Stanford University extended three online courses free of cost.

Following this, Peter Norvig and Sebastien Thrun offered "Introduction to Artificial Intelligence" gathering an overall participation of 160,000 learners out of which a mere 20,000 were able to complete the course. In February 2012, Thrun founded a company which could

provide MOOCs for free and later on named it Udacity. Subsequently, in April 2012, two Stanford professors, Andrew Ng and Daphne Koller commenced a company called Coursera collaborating with assorted universities in preparation for MOOCs. Massachusetts Institute of Technology developed the MITx, a base for providing MOOCs, renaming it edX after a partnership with Harvard. The union edX has substantially increased its popularity by partnering with almost 30 universities including McGill. EdX is a clear extension of MITx having more elaborative research by acquiring data from the students enrolled in the program. However, the pass rates in such courses are comparatively lesser than in the traditional model of education. The hippie rate is over 90% in most of the MOOCs.

As the number of students participating in MOOCs is multiplying day by day, a variety of MOOCs platforms have evolved to meet the demand for online learning. Getting started with open courses is quite easy as the main challenge lies with its successful completion. Platforms like EdX, Coursera, Udemy, Khan Academy, Canvas, Future Learn, Udacity are available to aid through a distinguishable learning experience. Enrolling for MOOCs starts with determining the right platform. A right platform is the one which provides high institutional credits, ease of language, doubt clearing rooms, affordable fee structure, course diversity and has recognized partner institutions. The most crucial step in enrolling for open courses is a qualifying platform itself. Once decided, user can register upon the platform by providing valid information like name, subjects of interest, etc. Registration for most of the platforms is free of cost. After signing up, one needs to choose among the learning methods available like e-books, video or audio lessons and get started with the desired course.

## II. LITERATURE REVIEW

- The seminal work by Michael Wesch in 2010, "A Vision of Students Today," highlighted the evolving needs of students in the digital age. Wesch's exploration set the stage for understanding the changing dynamics in education, emphasizing the importance of incorporating digital technologies to meet the expectations of contemporary learners.
- Christensen and Horn's influential study in 2012, "MOOCs: A Disruptive Innovation," laid the foundation for comprehending the disruptive potential of Massive Open Online Courses. The research emphasized the transformative impact of MOOCs on traditional educational models, paving the way for their integration globally.
- Freeman et al.'s research in 2014, "Digital Learning and Student Engagement," delved into

the relationship between digital learning platforms and student engagement. The findings underscored the positive correlation between digital tools and increased student participation, shedding light on

- In 2016, Liyana Gunawardena et al.'s study, "Challenges of MOOCs in Developing Countries," addressed the unique hurdles faced by Massive Open Online Courses in regions like India. The research provided insights into the disparities in access, infrastructure, and cultural factors affecting MOOC adoption.
- The report by NITI Aayog in 2018, "Digital Transformation in Indian Education," outlined the government's vision for integrating digital technologies into the education system. This policy-oriented literature contributed to the ongoing discourse on the role of digitalization in shaping the future of Indian education.
- Wang et al.'s research in 2019, "Student Perceptions of Online Learning," explored students' attitudes towards online education. The study offered valuable insights into the factors influencing student preferences, laying the groundwork for understanding the challenges and opportunities in digital learning environments.
- The literature by Sharma and Kapoor in 2021, "Inclusive Education through Digital Accessibility," explored the role of digital technologies in promoting inclusivity in education. Focusing on accessibility features, the study highlighted the potential of technology to cater to diverse learning needs, bridging gaps in traditional educational approaches.
- A study by Gupta and Verma in 2022, "Teacher Professional Development in the Digital Era," investigated the challenges and opportunities faced by educators in adapting to digital teaching methodologies. The research contributed to understanding the evolving role of teachers and the need for continuous professional development in the digital age.
- The work of Li et al. in 2022, "Social Presence in Online Learning," explored the importance of social interaction in digital education. The study delved into strategies to enhance social presence in virtual classrooms, acknowledging the significance of community and collaboration for effective online learning experiences.
- The global pandemic prompted a surge in online education. Research by Hodges et al. in 2020, "The Difference Between Emergency Remote Teaching and Online Learning," discussed the challenges and opportunities arising from the sudden shift to online education, providing valuable lessons for the future of digital learning.

- Kumar and Vyas's study in 2021, "Effectiveness of MOOCs in Skill Development," assessed the impact of MOOCs on skill enhancement. The research contributed to understanding the practical outcomes of Massive Open Online Courses, particularly in the context of developing countries like India.
- The literature by Anderson and Dron in 2022, "Bridging the Digital Divide in Education," examined strategies to overcome disparities in access to digital education. The study emphasized the need for inclusive approaches to ensure that technological advancements benefit all segments of the population.
- The work of Siemens and Gasevic in 2023, "Learning Analytics: The Emergence of a Discipline," explored the role of learning analytics in enhancing digital education. The research provided insights into leveraging data to improve educational outcomes, contributing to the ongoing conversation about the future of learning.
- A recent study by Gupta et al. in 2024, "MOOCs and Traditional Education Integration," investigated the potential synergies between Massive Open Online Courses and traditional classroom settings. The findings shed light on how a blended approach could optimize the strengths of both modalities.
- Patel and Desai's research in 2024, "Cultural Factors Influencing Digital Learning Adoption in India," explored the impact of cultural nuances on the acceptance of digital education. The study highlighted the importance of considering sociocultural factors for successful implementation.

### III. OBJECTIVES OF THE STUDY

MOOCs have occurred as a powerful tool of transformation in the present system of education. Since ages, the learning methodology has been consistent. Schools, colleges, and universities are considered as temples of knowledge. But with new technology and expertise, this ongoing structure has also been challenged. Internet, which is now a necessity has revamped the old school methodology of gaining knowledge and wisdom. Even though such an arrangement is accepted worldwide, there are many reasons leading to a large number of dropouts in the Indian subcontinent. This research has been conducted to study whether MOOCs can be a good replacement for accustomed teaching ideology. The main objectives of the study can be elaborated as below:

- A. Are MOOCs capable of replacing the Indian theory of the education in the long run?
- B. To study the impact of internet courses on the students.
- C. To ascertain whether the prevailing methods are still accepted by the learners or not.

To study the popularity of online courses in relation to normal schooling system and understand the reasons for disappointment among the students.

## IV. RESEARCH METHODOLOGY

As a large population of the country is positively accepting the innovation in the way of imparting education, there are several others who are still reluctant towards the idea. There are a lot of reasons which make the physical mode of education an important and reliable one. This study has been conducted in India in the year 2021. The data was originally taken through a questionnaire whereby the sample was free to provide opinion regarding the mode of education they preferred.

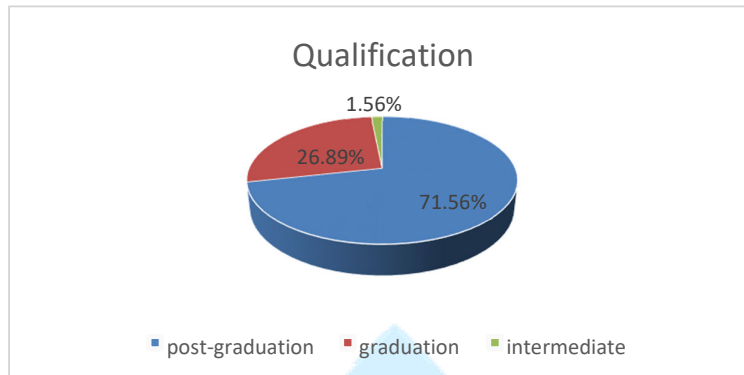
The simple random sampling technique was used to choose respondents for this study. The sample size of this study was 450. The age of the respondents is between 15 years to 25 years. The sample consists covers mostly from the students studying in either part of the country. Their preferences were purely based on the quality of experience they had while studying through open courses. The responses of the sample were collected through a structured questionnaire which was reviewed by 5 people before circulation and necessary changes were introduced.

The questions were bifurcated into two segments, one comprising of questions related to personal information of the respondent like age, qualification and state where they belong; while the other section was compiled of questions regarding MOOCs. A considerable portion of the questionnaire was focused on the idea whether MOOCs were preferred over the traditional system of education and why. The questionnaire was filled by 450 respondents. Social media like facebook, twitter and whatsapp was used to circulate the link among the audience. A stream of forwarding took place and it reached a wider and differentiated audience for better results. In no way, the information was distorted and interest of the respondent harmed. The survey method was used in the investigation. The survey instrument was created by the researcher. Cronbach's alpha reliability coefficient (total reliability) was 0.79. Overall, the discrimination index was 0.69.

## V. DATA ANALYSIS AND INTERPRETATION

Of all the respondents, 96.7% belonged to the age group of 20-25 years. Thus, unveiling the fact that trend of MOOCs in India was more popular among the students pursuing higher studies. The respondents were asked to specify their qualifications as well.

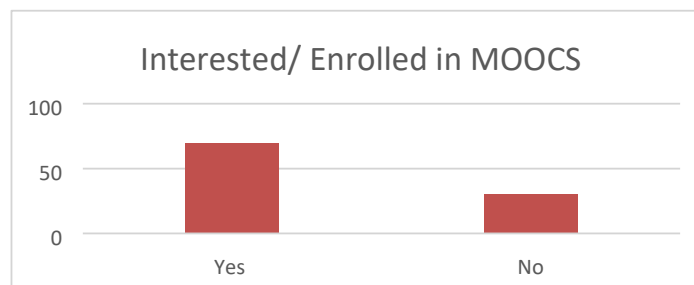
The following chart shows how the sample was scattered on the basis of qualification



**Figure 1: Qualification Status (Author’s Calculation)**

About 71.7% of the respondents were pursuing postgraduation, a mere 26.7% were doing graduation and, 1.7% just cleared intermediate. Upon concluding the statement we infer that digital mode was preferred by students who pursued masters. This led to assumption that MOOCs were used to gain extra knowledge by those who wanted a career in a specialized field.

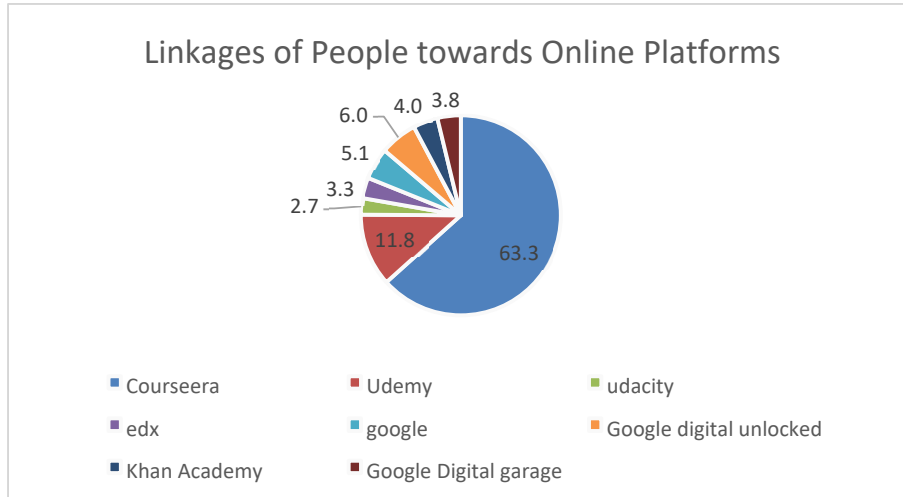
The participants were further inquired that if they were currently enrolled in any sort of online course available or not, or if they had opted for it before. The following is a graph showing the responses:



**Figure 2: Interested/ Enrolled in MOOCS (Author’s Calculation)**

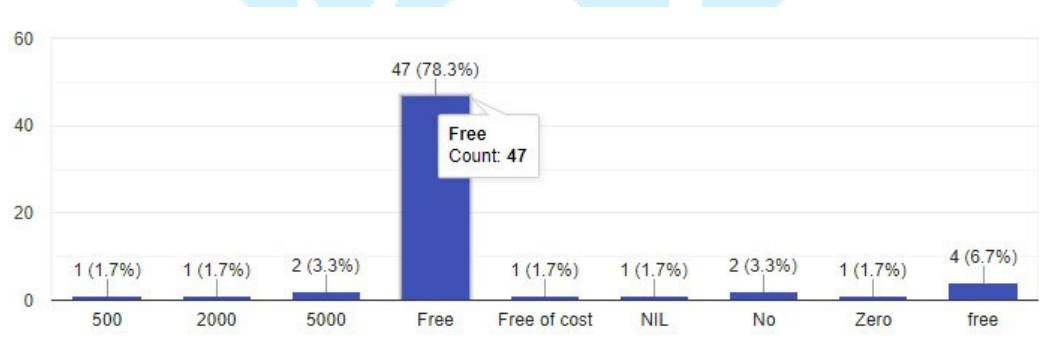
From figure 1 we inferred that, almost 30% of the sample was not interested for such online classes and preferred physical mode of education. Here, great care was taken regarding the fact that the contributors had prior knowledge of MOOCs alongwith their advantages and disadvantages. Another important aspect was that what platform was max preferred by people in india for open

certification. Following chart summarises the likings of people towards various platforms:



**Figure 3: Linkages of People towards Online Platforms (Author’s Calculation)**

From figure 3 it is clear that the highest preference was given to COURSERA, followed by a small portion of Udemey. The rest of the market was spread in unnoticeable portions among other brands or platforms. People also had the option to spend money on various courses available on the internet or avail them for free. The choices of amount likely to be spent on massive open courses varied among the contributors. The below shown graph illustrates the amount of income people in india would dedicate towards online certified courses:

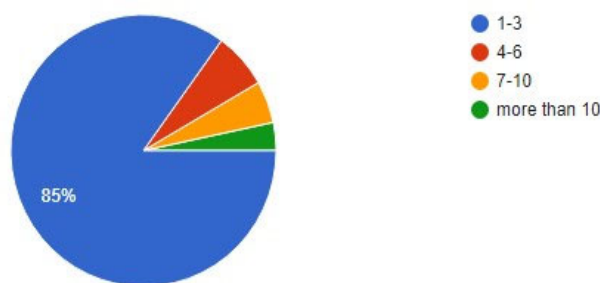


**Figure 4: Income Levels and Online Courses (Author’s Calculation)**

So, we figured out that almost half of the population in india did not want to spend on such studies and avail them only if they are available for free. A small portion managed to spend ranging from Rs 500- Rs 5000. Once a course gets completed, the user is awarded with certificate or credits according to the terms and conditions. Such awards not only serve as an acknowledgement of completion but also motivate them not to stop at that particular point and keep themselves headed



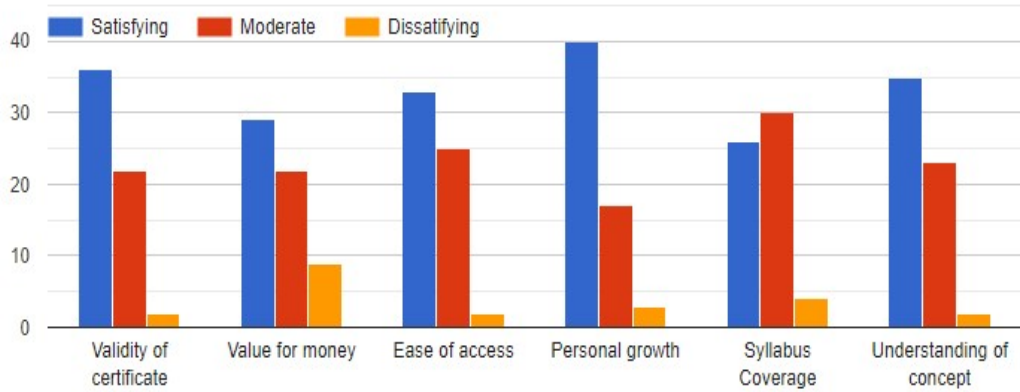
towards a new course. It ensures a continuous cycle of learning. The major problem arises when people start dropping out of the course due any of the reason. In India drop out rate is quite on the peak as people willingly do not wish to complete the courses and leave them in between usually because of declining interest. The respondents were questioned regarding the number of courses they had completed or wished to complete in near future, information is summarized as shown below:



**Figure 5: Number of Courses Enrolled (Author’s Calculation)**

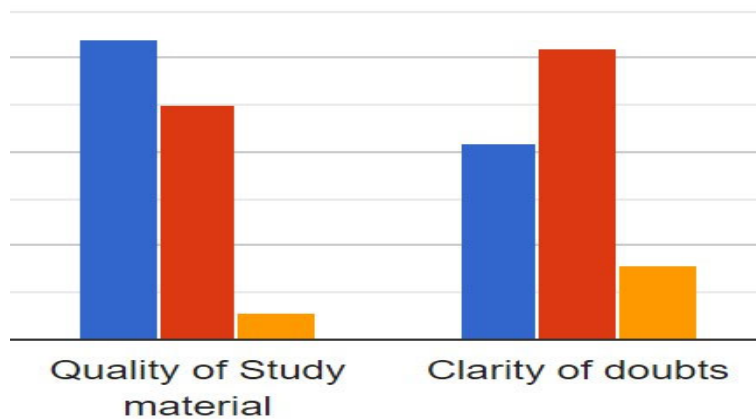
From figure 5 it is clear that Respondents had not engaged themselves in many courses, 3 being the most, as it is seen in the figure that 85% of the people do not wish to participate in much courses, may be due to satisfaction level. A few wished to complete more than 10 courses at a time.

Our research was based on the occurrence of MOOCs as an independent mode of study overshadowing the success of Indian education system. The results we obtained through the questionnaire have been summarized to provide a valid answer to the question that will MOOCs make the physical education obsolete or will the coming time consider MOOCs as just an optional mode of gaining information. The below presented pie chart shows that how people in India have made their perception regarding this revolution:



**Figure 6: Perception towards MOOCs (Author’s Calculation)**

46.76 % shows that people are still confused regarding the welcoming of MOOCs because most of the answers are neither in the form of yes (21.7%) nor no (31.7%) . Indians have strong faith in what is taught in the classroom and they believe they are able to retain and understand it much better than if it were through internet video or audio. Moreover, as the word about MOOCs is spreading faster than ever, more and more people are joining the platforms but their major aim is not focused on learning and just to avail an award of completion. This phenomenon makes the certificates availed a mere digital message common for all and no sense of achievement or hard work is attached with it. People were asked to provide their reasons regarding why they had opted for open courses or why not. Their responses have been picturerised through a column chart:



**Figure 7: Final Output (Author’s Calculation)**

Figure 7 shows that students do not find the concept of online learning as a base to clear their doubts. Following that is the value for money, the graph indicating that people in our country do not find the open courses worth spending money although people spend huge amount for normal

classroom education, the case being reverse with respect to MOOCs. Another disturbing factor indicates that syllabus covered under MOOCs is not sufficient and doesn't meet the standards of normal education. The appropriate reason why MOOCs are becoming popular today is due to personal growth an individual wants for his/her career.

## **VI. ADVANTAGES AND DISADVANTAGES OF MOOC'S**

MOOCs offer significant benefits which might not be offered by the conventional system of education. The most essential being the variation of courses offered on a single platform. The courses are like unique color shades of the same group. Example, introduction to financial markets and financial engineering, both fall under the head of finance. The ease of swapping among languages makes the interface user friendly. Another feature which adds to the advantage of on stream learning is cost efficiency as compared to current inflationary scenario in the context of academic expense. Despite of lesser cost, MOOCs do not oblate from providing expert guidance from top school professors and lecturers carving a way for improved cross-cultural relationships and worldwide exposure. The study material supplied along with videos is not limited to any particular cluster of schools or colleges but, it carries such resources that are available globally. Besides, users can avail the benefit of specialized courses or degrees as per convenience and earn a Certificate or Award of Recognition after successful completion.

Like a classroom, MOOCs provide discussion forums and assignment exercises as well which are reviewed by peers making sure that the learner is understanding the essence of course availed. This system reduces examination stress and focuses on real time learning. Although Open learning has lucrative advantages, there are various reasons why the massive open courses are failing even after the country is turning digital hastily. To start with the drawbacks, the major portion of dropouts of MOOCs is due to lack of deep understanding by the student leading to loss of interest and finally slipping out of the course. Even though video lectures clarify most of the doubts related to the subject matter, there are a lot many topics which require physical exposure such as agriculture, electronic communication, petroleum studies, subjects of law, etc.

There are many questions which remain unanswered because the interaction is partially one sided. Open learning does not lead to a systematic schedule and as a consequence, students take days or weeks or even months to complete a single course. Moreover, video lectures cannot cover all the relevant topics and thus, are unable to provide in-depth information. The mode of

performance review adopted by current teaching system is far better than any open course can have. This is due to non-existence of exams at the end of the course. Even if exam or assignments are made compulsory, the grading system is quite feeble. Students do not commence the courses with an intention of serious learning but just to avail a tag of completion. Under such circumstances, no student takes the assignments seriously but try to copy and obtain a grade just to pass the course. Upon successful completion, the learner is awarded with a certificate. The core issue relies on the validity of the certificate as it can be easily obtained by anyone upon course completion, despite of intelligence quotient of the user.

## V. CHALLENGES FOR DEVELOPMENT OF MOOC IN INDIA

There are so many obstacles in the development of MOOCS in India.

- **Infrastructure/Technological Requirement:** MOOCs require high-speed internet connections in order to access the information offered in their courses. Internet and computers are considered luxuries in a developing country like India, and their availability is primarily limited to metropolitan regions. The scarcity of necessary infrastructure to access MOOCs has limited their widespread adoption.
- **Huge Investment:** Offering a MOOC is an expensive endeavor which involves the costs of infrastructure, platforms, content development, human resources, and other expenses. Because institutions do not have sufficient resources to make investment in such activities, it is difficult for an individual institution to provide such services. Some authorities must be involved in order to invest in the process and encourage education. Even the government has to loosen old traditions and constraints and promote public partnerships in order to create MOOCs in the nation.
- **Diversification:** India is a diverse country with various communities and multiple languages spoken. They must agree on a common language of communication in order for MOOCs to be accepted by such a large audience. English, being an internationally recognized language, excludes a sizable portion of the audience who lack knowledge or appropriate competence in English. As a result, a shift to primarily English-based courses, as offered by contemporary MOOCs, typically discourages learners from continuing their studies. The courses should also be given in certain regional languages, which might be a time-consuming process with the risk of losing uniformity and quality. As a result, language is among the hurdles that MOOC providers must solve for learners of Indian origin.

Through most Moocs, interaction among an instructor and an user is done in writing. It leads to a lack of oral communication skills among the learners, which can only be remedied through a conventional approach. Watching course videos or other information on a computer screen can also make the student feel alone. As a result, learner motivation suffers, and they withdraw from the course. Furthermore, online courses that need lab or hands-on instruction may not totally serve the aim. As a result, one of the challenges that MOOCs may confront is learners' acceptance of technology.

## V. CONCLUSION

In India, MOOCs is still in its infant stage. MOOCs have a promising future in India. With a rising population and a paucity of schools, particularly government institutions, as well as a lack of infrastructure, MOOCs have the potential to be game changers provided government and policymakers embrace them. Data has shown that though MOOCs have somewhat brought an alteration in the way people used to gain knowledge, the roots are yet not strong enough as thought. These innovations have led to a drastic change in the marking system and result formation. The major concern relies on the fact whether the quality of education we receive online is better than classroom mode or not? Whether the understanding of the concept is there or not, whether the course material is viable or not, whether the knowledge gained is sufficient or not. All answers to these questions in Indian region are still no because out of a population of 260 million Indian learners a mere 3.8 million are effective members of MOOCs. MOOCs have still a long way to go in a country like India where the illiteracy rate is major challenge and the vast network of schools and colleges stands another.

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