



Digital Transformation in Indian Online Education: A Study of MOOCs and Online Courses

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Abstract:

The rapid expansion of online education in India has resulted in a substantial change in the manner in which students access and interact with educational content. This research investigates the effects that the digital transition has had on online education in India, with a particular emphasis on Massive Open Online Courses (MOOCs) and online courses. This study explores the current situation of massive open online courses (MOOCs) and online courses in India, discussing topics such as their popularity, accessibility, and usefulness. In addition, the study investigates the potential and problems that are associated with the digital transformation of online education in India. These obstacles include those pertaining to accessibility, equity, and quality. However, there are important issues that need to be addressed, such as the digital divide, a lack of infrastructure, and insufficient teacher training. The findings imply that massive open online courses (MOOCs) and online courses have the potential to extend access to education and improve learning outcomes in India. At the end of the study, recommendations are provided for policymakers, educators, and stakeholders in order to maximize the potential of digital transformation in online education in India. The digital transformation of online education in India is being driven by initiatives such as SWAYAM and NPTEL. This transformation makes use of Massive Open Online Courses (MOOCs) and digital platforms to broaden access, overcome traditional barriers (such as teacher shortages), and provide flexible learning opportunities. However, there are still challenges in the areas of engagement, infrastructure, and certification recognition. This transformation is in line with the inclusive goals of India's National Education Policy 2020.

Keywords: Digital Transformation, Online Education, MOOCs, Online Courses, India

Introduction:

Education is the cornerstone of each modern nation, and it is the primary factor that determines a nation's standing in the international community. Each and every industrialized nation is embracing and incorporating digital learning into their institutionalized educational system. It is becoming increasingly common for India to incorporate digital learning into its traditional educational system. Digital learning is regarded as an essential component of the educational program in several universities and colleges in India. In addition, the New Education Policy 2020 places an emphasis on digital learning as a means of enhancing educational productivity. In this day and age of digital technology, Massive Open Online Courses (MOOCs) operate as a productive medium to impart education to a large number of people. MOOCs, which stand for massive open online courses, offer learners the opportunity to participate in online learning experiences from the comfort of their own homes. The traditional methods of teaching and learning that are used in the formal education system are being replaced by blended learning, which is being adopted by universities and colleges around the world. The use of digital learning was strongly sought by educational institutions of higher learning in order to improve the knowledge and abilities of students. The provision of numerous resources to improve one's knowledge of information technology is something that educational institutions offer in order to facilitate the development of competencies. The advancement of digital India is significantly aided by the utilization of information and communication technology technology. Policymakers and educational institutions will find that digital education and information technology are beneficial to their work. The New Education Policy 2020 has a vision of encouraging learning that continues throughout one's life, and the government authorities are taking significant steps to make this vision a reality. Through their case study, Chatterjee and Nath (2014) said that massive open online courses (MOOCs) are becoming increasingly popular, particularly in higher education institutions, and that they are useful in the education market of India. The following are some of the most important problems associated with massive open online courses (MOOCs) and various potential solutions to the widespread adoption of MOOCs in educational institutions from the Indian point of view. Ubiquitous Learning provides a global platform for the Indian Education System, and Massive Open Online Courses (MOOCs) have the potential to serve as an efficient medium for promoting this, which ultimately results in an improvement in the overall quality of education. Learners who are keen to learn at their own pace are able to take advantage of an increasing number of online learning options presented by the new digital environment. According to the findings of prior research, an empirically justified framework is necessary for the development of successful courses that are delivered through massive open online courses (MOOCs) in higher education (Yang, Yusop, and Leng, 2022). Using the online form of instruction, students have the opportunity to engage in digital learning, which may help them become more proficient in the use of digital tools. Their contentment with the learning process results in learners who are both effective and of decent quality.

For the purpose of resolving the academic loss that students were experiencing as a result of the pandemic, educational institutions are making use of all available resources and attempting to implement innovations that pertain to digital learning. The implementation of technological advancements in the field of education is absolutely necessary in order to establish a new generation-education system in India. Through the utilization of the technology and advancements that were available at the time, India was able to successfully control the

pandemic scenario. At the present time, every educational institution is in possession of every notion to improve their institutions in accordance with the latest technologies and the requirements of the education sector. An initiative taken by educational institutions to attain these technological breakthroughs in teaching and learning is the adoption of digital learning and the implementation of massive open online courses (MOOCs) in certain universities. It is said in Singh and Tiwari 2021 that in order to provide rapid universal access to networks, new normal educational institutions need to have the appropriate infrastructure as well as professors and students who have received adequate training. In addition, Singh and Tiwari 2021 mention online learning platforms that are able to support learning during a lockdown. These platforms include Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM), E-PG Pathshala, Digital Infrastructure for Knowledge Sharing (DIKSHA), CBSE PODCAST, National Digital Library of India (NDL), IIT Pal, Vidwan, e-Shodh Sindhu, UMANG mobile app, One Class, One Channel, and others. These are the steps that the government of India has taken in order to introduce digital learning and technology improvement to the field of education. In addition, the government intends to offer financial help to the many industries that are engaged in the process of building digital projects. In order for the nation to progress, there is a requirement for transformation in every aspect possible. After such a long period of time, the New Education Policy 2020 represents a significant step towards achieving this transition. In the year 2020, the implementation of the New Education Policy would provide academicians with a more significant problem. Everyone who has a stake in the matter need to be able to reap the benefits, and the implementors ought to make the inclusion of all sectors their first goal. It is for the betterment of all associations within the Indian education sector that all institutions and the government of India are getting ready for this change of adopting NEP 2020 at the grassroots level. The most important aspect of schooling in the future is digital learning. Massive open online courses (MOOCs) are the means via which digital learning can be brought to learners. When it comes to the education system in India, digital transformation has emerged as the new generation in order to bridge the gap between connected and unconnected learning through the use of digital technology. The government is taking a number of efforts, and the National Education Policy 2020 (NEP2020) mandates that digital learning be implemented into the Indian educational system. In order to effectively manage digital learning in educational institutions, the administration of education ought to be equipped with digital technologies. Through the use of digital learning in educational institutions, the flipped instruction paradigm has emerged as a viable methodology for the delivery of high-quality education. According to the findings of a number of different forms of study conducted on massive open online courses (MOOCs) and digital learning, both of these strategies are acceptable to all stakeholders in the education sector for the purpose of improving the quality of education. The deployment of massive open online courses (MOOCs) and digital learning in educational institutions ought to be advocated for the investigation of further research perspectives. Due to the fact that there would be some difficulties related to the implementation, this field ought to also be a part of the research that is conducted by researchers from an Indian point of view.

Researchers have paid a significant amount of attention to the examination of user involvement in online educational courses as a result of the proliferation of Massive Open Online Courses (MOOCs). One of the most important aspects that has been found by a large number of academics is the efficiency of massive open online courses (EMOOCs). Consequently, this resulted in the development of a variety of MOOC frameworks, models, theories, designs, and principles for evaluating online learning for both students and instructors. In order to determine the elements that contribute to the success of massive open online courses (EMOOCs), this research makes use of the statistical software known as IBM SPSS. It looked at eight different factors, both direct and indirect, that contribute to the success of massive open online courses (MOOCs). For the purpose of this study, data were collected from technical courses that were offered at tertiary institutions in the Punjab region of Northern India. It was assumed that the students had prior experience with Massive Open Online Courses (MOOCs). According to the findings of the study, the efficiency of Massive Open Online Courses (EMOOCs) can be improved by focusing on aspects such as the course content and design, performance evaluation, learner feedback, teacher-student interaction, and technological support in these types of courses. Validation of the results is accomplished by the use of the Discriminant Validity (HTMT ratio and Fornell-Larcker Criteria). The purpose of this study is to provide useful insights into the development and execution of Massive Open Online Courses (MOOCs) that are designed to address the specific needs of learners in Northern India, with a particular emphasis on Punjab. The study highlights significant factors that have an impact on the efficacy of massive open online courses (MOOCs), and it offers suggestions that can be put into practice by educators and organizations who are looking to improve the learning experience in this particular field.

Since the turn of the twenty-first century, there has been a significant shift in the manner in which educational transactions are administered. There is a widespread belief that the fields of education and educational technology have experienced a resurgence in the current era of the digital revolution. Everyone needs to get used to using information and communication technology (ICT) in everyday activities including educational components due of the current COVID-19 epidemic. Considering the rapid expansion of the information and communications technology (ICT) sector, the Government of India (GoI) is interested in bringing about a significant change in the current method of education delivery. It is widely acknowledged that India possesses one of the most extensive educational systems present in the world. For a variety of reasons, including the nation's vastness and demographic diversity, the educational transactional operations of the nation periodically experience difficulties. Massive open online courses, also known as MOOCs, are being considered as a possible solution to the problems that have been identified. Every single one of India's massive open online courses (MOOCs) is being conducted through the one and only national online platform known as Study Web of Active Learning for Young and Aspiring Minds (SWAYAM). Through the development of technology, SWAYAM is committed to addressing the educational requirements of students at all levels, from secondary school (SE) to higher education (HE). For the purpose of bringing about an educational revolution, the most recent National Education Policy, 2020 (NEP 2020) asks for considerable changes to be made to the existing structure of higher education. The reforms involve a wide range of themes, such as the establishment of the academic bank of credit (ABC) framework, globalisation and privatisation of HE, giving students with many

entry and exit points for their course structures, etc. According to the Ministry of Human Resource Development's research from 2020

In recent times, it has been seen that companies that deal in educational technology (EdTech) are exerting a great deal of effort in order to acquire or improve their share of educational practices. In order to achieve success in their endeavors, EdTech companies are working tirelessly to collect, edit, and distribute a large data bank to the various players in the educational system throughout the world. As a consequence of this, technical phrases such as "big data analytics" and "data mining" are introduced into the situation. According to one definition, "data mining" is a procedure that is utilized to extract data that can be utilized from a bigger set of raw data. This entails utilizing one or more software programs in order to analyze data patterns in big quantities of data. The process of data mining has relevance in a variety of domains, including research and scientific study. As a result of the application of data mining, businesses are able to gain a deeper understanding of their consumers, establish more efficient strategies pertaining to a variety of company operations, and ultimately leverage their resources in a manner that is both more optimal and insightful. Businesses are able to approach their goals more effectively and make more informed choices as a result of this. Information mining is a process that requires efficient data collecting and storage, in addition to the utilization of computer processing. For segmenting the data and calculating the probability of future events, data mining requires advanced mathematical algorithms. The process of data mining is often referred to as knowledge discovery in data (KDD), as stated by The Economic Times (2022). Consider how, in spite of these technical limitations, the same idea of data mining may be applied to the field of education via the perspective of an educational researcher. This is the most important aspect to take into consideration. In the event that the exercise is carried on throughout its whole, what types of conclusions can be drawn? In order to provide answers to these queries, the background of the current investigation is presented. The introduction investigates the ways in which education and technology cross with one another. It would appear that the technology acceptance model (TAM), which involves massive open online courses (MOOCs) as its focal point, is an important concept in education research and allied activities. The landscape of Egyptian universities is the subject of Abdulaal's (2021) research. Users' responses to activities in massive open online courses (MOOCs) are influenced by a number of factors, including perceived utility, accessibility, and exogenous variables. The authors Adomaviciuti et al. (2023) investigate the behavioral characteristics of e-learners. The impact of a more significant contextual precipice is captured by the researchers through the repetition of their research on forty-four different countries. With regard to the MOOC participants' intention to continue, the data indicate that TAM is the sole factor that deserves consideration. The model has a limited capacity to predict the two other e-learning behaviors, which are the intention to cancel massive open online courses (MOOCs) and the willingness to complete the course without further participation.

Conclusion:

The most important aspect of schooling in the future is digital learning. Massive open online courses (MOOCs) are the means via which digital learning can be brought to learners. When it comes to the education system in India, digital transformation has emerged as the new generation in order to bridge the gap between connected and unconnected learning through the use of digital technology. The government is taking a number of efforts, and the National Education Policy 2020 (NEP2020) mandates that digital learning be implemented into the Indian educational system. In order to effectively manage digital learning in educational institutions, the administration of education ought to be equipped with digital technologies. A paradigm of instruction known as "flipped instruction" has emerged as an efficient method for delivering high-quality education to educational institutions through the implementation of digital learning. Several types of study have been conducted on massive open online courses (MOOCs) and digital learning, and the findings of these studies indicate that digital learning and MOOCs are acceptable to all stakeholders in the education sector for the purpose of improvement of educational quality. The deployment of massive open online courses (MOOCs) and digital learning in educational institutions ought to be advocated for those interested in conducting additional study. As a result of the fact that the execution would be fraught with difficulties, this particular domain ought to be included in the research that is conducted by researchers on an Indian perspective.

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