

Challenges of Swayam Moocs in Higher Education: Students' Perspective

Abstract: Massive Open Online Courses, sometimes known as MOOCs, are online and mobile-based hybrid and remote learning programs. During the COVID-19 pandemic, MOOCs gained increasing recognition among academics and the general public. Because of this, the education industry continued to provide instruction through MOOCs both during and after the COVID-19 lockdown. In India, MOOCs are now extensively accessible and available because to SWAYAM. In-person training is not as widely available or accessible in India. SWAYAM, an indigenous Indian MOOC portal, gives applicants access to blended learning opportunities. But the completion and retention rates are far lower than the enrollment ratio. According to the findings of the current study, most Higher Education students have not been able to participate in MOOCs.

Keywords: SWAYAM, MOOCs, Higher education, Status, Challenges, Public and Private college/university

Education is one of the domains that have seen recent changes brought about by technology advancement and digitalization, which have greatly altered the methods for learning as well as the method of instruction¹. Thus, providing academic opportunities for everyone has been one of the top concerns for improved training globally in the twenty-first century². With that in mind, Massive Open Online Courses (MOOCs), the open education movement, have emerged as a central concept for thinking about the near future of higher education³ as a means to improve access and quality of education, reduce education costs and inequality, especially in developing countries⁴. India's New Education Policy in 2020 (NEP2020) places a great deal of emphasis on distance learning policy and eliminate the digital divide by providing a suitable digital platform. Brown (2018)⁵ described three waves of MOOCs, the first of which occurred in 2014 and was based on marketing strategy, the second of which occurred between 2014 and 2017 and was based on life-long learning, and the third of which occurred in 2017 was based on business and investment with institutional collaboration. Now, in the context of India, where face-to-face learning is not as

effective as it appears to traditional educators and nor available and accessible to all of India, that is why new paths of Indian education system must be decided to satisfy the needs of the masses while moving towards a better society⁶. In 2020, Education systems also highly influenced by declaration of subsequent lockdown for COVID-19 pandemic⁷ and educational institutions have tried to cope up with this situation through adoption of online/blended learning to continue educational processes. At that time MOOCs appeared as a solution to academics, students and teachers.

Less pressure than traditional learning has made learning online more appealing to students and faculty members, but it has also resulted in less interactive instruction due to lack of internet connectivity in remote and mountainous areas and a lack of interaction⁸. In the same way the most stressful and greatest hurdles for instructors were course design, course development, content development, learner involvement, time pressure during MOOC development, and a lack of technological skills⁹. Another study by Pant et al. (2021)¹⁰ stressed implementation issues which have been turned out to be major challenges in relation to India. Followed by the previous studies it was noted in another studies that during the implementation of MOOC SWAYAM in India, numerous challenges arose. There are numerous issues with the Indian educational system, including its inequity, the challenge of creating an online curriculum based on experiential learning, a lack of ICT knowledge, a lack of interest in technology education, a lack of appropriate research, and others². Also influencing factors in the effective implementation of MOOCs in India were analyzed using structural equation models and found that teaching, curriculum and technology have a positive impact on MOOC implementation⁶. Biswas and Sarkar, (2020)¹¹ also found limited availability of essential infrastructure, cost related issues, multicultural society and multilingual population, poor course quality due to a shortage of technically knowledgeable teachers to design course content using the most up-to-date tools, and lack of communication skills between lecturers and students etc. proved to be a huge challenge in implementing MOOCs in

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India. The majority of MOOCs are often generated in English, which presents a challenge for many students¹² particularly in poor countries where the majority of people still speak their mother tongue and are not often fluent in English¹³. According to Mohan et al., (2020)¹⁴ time constraints, ineffectiveness compared to traditional learning, technological challenges and repetition etc. affected the students' enrolment and completion ratio. Another study by Vysakh and Rajendra (2020)¹⁵ noted that Faculty members of four technical institutions in Karnataka confront seven primary barriers such as Internet problems, lack of training, lack of time, course duration, lack of technical expertise, lack of motivation, and lack of facilities. Kaur (2019)¹ reported that MOOCs play important roles in scalability, autonomy, restriction removal, and the formation of non-discriminatory cohesion, but user-generated content, difficulty in controlling participants and changing content during the course, lack of guidance, and other factors limited MOOCs effectiveness. And also MOOCs heavily faced trouble on Credit consolidation, among other things, is currently causing issues with MOOC implementation. Shaikh (2017)¹⁶ also reported that more than 40% of the B.Ed. and M.Ed. students expressed their negative interest in MOOCs due to the length, content and design of the course. Teachers from public universities and private institutions had different perceptions and interests, according to Khalil and Sultana (2017)¹⁷. They claimed that instructors in Pakistan's public institutions do not utilize MOOCs for professional responsibilities or activities, while teachers in private universities do not use MOOCs for professional purposes in significant numbers. Another study by Moura et al. (2017)³ discovered that the vast majority of capable customers prefer to use MOOC content in their native language, and that the lacks of uniform MOOC requirements across countries, as well as dissatisfaction with Internet costs, speed, and instability, have all created barriers in MOOCs based learning in Latin America³.

Despite the promise for increased quality education materials and free access, underdeveloped countries make limited use of MOOCs, due to limitations and barriers such as language, technical infrastructure, fundamental skills, in-person interaction, feedback, and teaching –learning strategy etc.⁴. Shah (2016)¹⁸ asserted that though MOOCs are getting popular in the world but many challenges such as technology, economy and pedagogy of MOOCs are responsible for high dropout rate of its stakeholders. The purpose of this study is to provide a basic frame work on challenges of Indian MOOCs faced by its stakeholders.

Significance of the Study: The development of technology has greatly improved our lives in the twenty-first century. Educational technology also improved. Education can now be obtained at one's own convenience. In order to improve the educational outcomes of students, the study aims to offer educators and policymakers with accurate knowledge on the numerous variables that prevent MOOCs from becoming a successful instrument for educating millions of students. This study might be important for lowering obstacles faced by MOOC stakeholders. The researchers also looked for benefits that might draw students to higher education.

Objectives of the Study

- To find out the present status of SWAYAM MOOCs in higher education in India.
- To find out the problems of Higher Education Students/Scholars that they face in using SWAYAM MOOCs.
- To make a comparative assessment of Challenges in using SWAYAM MOOCs between Government and Private Higher Education Institutions.

Methodology: This study adopted a descriptive survey research design. It is comprised of samples, research tools, data collection process, and statistical techniques etc.

Sample and Data Collection Sites: According to University Grant Commission's document¹⁹, India is having 421 private universities, 126 deemed to be universities, 54 central universities, and 456 state universities and 43,796 colleges as of August 23, 2022. In the current study, the researchers randomly selected 2 universities (one state university and one private) and 4 colleges (one government and three private) from Birbhum and Burdwan Districts in the state of West Bengal. To uphold ethical standards, the genuine names of the universities and colleges—denoted as SU1, PU2, GC3, PC4, PC5, and PC6 – are not disclosed. Graduate (B.Ed.), Postgraduate (M.A. & M.Ed.), and Ph.D. students/scholars had constituted study's target groups. The participants' complete demographic information is displayed in Table I.

A stratified random selection of participants was made. 65 participants were chosen from Government University, 30 participants from private universities, 30 participants from Government College, and 75 participants from (25 each from three private colleges) private colleges. A total of 200 students/scholars, including 70

Table I- Demographic Information of the Participants

Participants	Male		Female		Total (N=200)
Gender	115 (57.5%)		85 (42.5%)		200 (100%)
Qualification					
M.A	45 (22.5%)		25 (12.5%)		70 (35%)
B.Ed	50 (25%)		37 (18.5%)		87 (43.5%)
M.Ed	15 (7.5%)		22 (11%)		37 (18.5%)
Ph.D	5 (2.5%)		1 (0.5%)		6 (3 %)
Institution	Govt. college/ State University		Private college/ University		
	Male	Female	Male	Female	
M.A	35 (17.5%)	18 (9%)	10 (5%)	7 (3.5%)	70 (35%)
B.Ed	25 (12.5%)	22 (11%)	25(12.5%)	15 (7.5%)	87 (43.5%)
M.Ed	12 (6%)	18 (9%)	3 (1.5%)	4 (2%)	37 (18.5%)
Ph.D	4 (2%)	1 (.5%)	1 (.5%)	————	6 (3 %)
Institution		Male	Female	Total	
State University 1 (SU1)		60 (30%)	40(20%)	100(50%)	
Private University 2 (PU2)		9 (4.5 %)	11 (5.5%)	20 (10%)	
Govt. College 3 (GC3)		16 (8%)	19 (9.5%)	35 (17.5%)	
Private College 4 (PC4)		10 (5%)	5 (2.5%)	15 (7.5%)	
Private College 5 (PC5)		10 (5%)	5 (2.5%)	15(7.5%)	
Private College 6 (PC6)		10 (5%)	5 (2.5%)	15(7.5%)	

Table II- Status of SWAYAM MOOCs

National Coordinator	Completed Courses	Student Enrollmet	Exam Registratioes	Successful Certification as on Date	% of Success Against Enrollment
UGC	263	284812	12310	9327	3.27
NPTEL	4813	18813698	1946575	1094577	5.81
NITTRC	157	295165	6838	5111	1.73
NIOS	343	3327638	0	0	—
NCERT	201	358263	0	0	—
IIMB	203	528242	13548	8902	1.68
IGNOU	700	1032303	14989	5942	0.57
CEC	1116	2246609	52661	34658	1.54
AICTE	286	1070061	159792	18559	1.73
Total	8082	27956791	2206713	1177076	

Source: www.swayam.gov.in²⁰ as retrieved on 03/08/2022

postgraduates, 87 B.Ed., 37 M.Ed., and 6 Ph.D.s. were selected as sample. Detailed demographic information of the participants has been displayed in Table I.

Tools Used: A self made standardized structured survey questionnaire was given to students to ascertain their opinions on potential and challenges of SWAYAM MOOCs. The researchers wrote letter to the head of each of the departments detailing data collection, confidentiality concerns, and ethical considerations about volunteer involvement. The respondents had to select an alternative out of five options for each one of the item of questionnaire. To gather data, 200 sets of closed-ended, structured questionnaires with 10 items each were issued to participants via WhatsApp, email and printed hard copy. In order to rank the assertions, five-point Likert scale and MCQs are used in accordance to get the nature of responses.

Data Collection: Data from all 200 respondents were collected and all 200 sets of responses were included in the statistical analyses.

Data Analysis Techniques: Microsoft Excel 2016 and IBM SPSS 27 were used to analyze the collected data using percentages and chi square analysis.

Findings and Discussion: Data were analyzed based on how each question was answered in order to meet the research objectives. Therefore, all attempts were made to give a fundamental statistical analysis of the responses provided by students and scholars to various queries.

In this section we analyzed each objective one by one in ascending order to get the clear overview of students' perspectives

regarding challenges of SWAYAM MOOCs in higher education. For the first objective, present status of SWAYAM MOOCs in higher education, we collected data

from SWAYAM website www.swayam.gov.in²⁰, and based on this data analyses were done. There have been nine national coordinators of SWAYAM MOOCs, among them University Grant Commission (UGC), National Programme on Technology Enhanced Learning (NPTEL), The National Institute of Technical Teachers Training and Research (NITTR), The Indian Institute of Management Bangalore (IIMB), The Indira Gandhi National Open University (IGNOU), The Consortium for Educational Communication (CEC) and All India council for Technical education (AICTE) provide various credit/non credit and diploma courses for UG to PG level except The National Institute of Open Schooling (NIOS) and The National Council of Educational Research and Training (NCERT). From Table II, it is clear that enrollment rate was too high than the completed courses and successful certification and success rate against enrollment also had been very poor, however it is seen that the rate of registration for examination was comparatively high. As on 03/08/2022, a total no of 2,79,56,791 learners enrolled in different MOOCs through SWAYAM portal and filled registration form for examination was 22,06,713, but only 11,77,076 learners were eligible to get certificate/ transfer credit. In respect of total enrollment a total of 7.89% of learners had filled exam registration form, where as only a total of 4.21% learners successfully completed the course and got relevant certificate (vide Table II).

The second objective i.e. problems of Higher Education Students/Scholars that they face in using SWAYAM MOOCs was analyzed based on the responses of how each question was answered. Therefore, researchers used simple percentage analysis to give a straight forward picture of the responses provided by students and scholars to various queries.

In this study, we also attempted to find out the differences in challenges faced by the students/ scholars of Government and Private Higher Education Institutions. For access to the course contents offered by SWAYAM MOOC, high speed internet connections are needed. Internet and computers are more available in urban areas in a developing country like India than in rural areas. Therefore, SWAYAM MOOCs are not as widespread as they might be due to the lack of internet connectivity to support them. The lack of high speed internet access or slow internet connections can affect students' learning through SWAYAM MOOCs.

Data showed that 89% of students/scholars in the humanities and social sciences (strongly agree + agree)

has experienced internet connectivity issues while using the SWAYAM MOOCs platform, 4.5% of them were neutral and 6.5% of respondents who (disagree+ strongly disagree) denied having such issues. So, poor internet connectivity issues can be inferred as a legitimate obstacle to the country's embrace of SWAYAM MOOCs.

India is a multiethnic and multilingual nation, and the majority of the courses offered through SWAYAM MOOCs were written in English. The bulks of students in developing countries like India are used to converse and communicate in their native tongue and are hardly ever fluent in English. Because of this, participation in SWAYAM MOOCs is hindered by the language of instruction¹¹. Data revealed that 18.5% (strongly disagree+ disagree) of students/scholars did not experience language problems during the course period, 31% were neutral. However, the majority of learners, 50.5% (strongly agree + agree), had encountered language problems in course instruction while pursuing courses on the SWAYAM portal.

Group discussions and contact with professors, students, and others are regular and essential components of the traditional method of education system. These activities aid students in dispelling misconceptions and gaining a thorough understanding of the subject⁸. 7% of students and scholars (strongly disagree +disagree) never experienced this problem when enrolled in any SWAYAM MOOC course, but 16.5% were neutral and 76.5% (strongly agree +agree) of them faced that problem.

In total, 31.5% of students and scholars had trouble grasping the course material; in contrast, 68.5% of students and scholars had no trouble at all. Additionally, maintaining a high standard of quality for SWAYAM MOOCs is difficult in and of itself, due to a large number of unfilled teaching positions, a lack of laboratories and professors having the lack of technical proficiency to develop course materials utilizing modern tools. Additionally, there is no governmental framework for evaluating course quality¹¹.

Researchers compared the degree of the difficulties faced by students and scholars while using SWAYAM MOOCs in respect of Government and Private Higher Education Institution. In each of the following situations, researcher combined the Likert scale response categories and used the chi-square test with a 5% threshold of significance. For example, if the Likert scale responses are as strongly agree, agree, neutral, disagree, strongly disagree, then it would combine the agree and strongly

agree responses into one category and the disagree and strongly disagree into another and else neutral i.e. agree, disagree and neutral. In this way researchers used categories of responses for calculation through SPSS version 27.

RQ 1: Is there any difference between public and private higher education institutions' students/scholars on the internet access issues while using SWAYAM MOOCs?

H₀1: There is no difference in the internet access issues while using SWAYAM MOOCs between public and private higher education students/scholars.

H_a1: There is a significant difference in the internet access issues while using SWAYAM MOOCs between public and private higher education students/scholars.

Table III- Issues of Internet Access

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.860a	2	.239
Likelihood Ratio	2.710	2	.258
Linear-by-Linear Association	2.784	1	.095
N of Valid Cases	200		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.93.			

From the result of the Chi square test of Association as shown in the table – III revealed that the hypothesis H₀1 is not rejected. Hence it can be said that internet access issues while using SWAYAM MOOCs by the students/scholars did not differ by the management type of the higher education institution, χ^2 (2, N=200) = 2.860, p-value = 0.239. Evidence from the sample demonstrates that there is no appreciable difference in the internet issues that students and scholars from Government and Private Universities suffer when attempting to attend SWAYAM MOOCs.

RQ 2: Is there any difference between public and private higher education institutions students/scholars on language in course instruction in SWAYAM MOOCs portal?

H₀2: There is no difference in language in course instruction in SWAYAM MOOCs portal between

public and private higher education institutions students/scholars.

H_a2: There is a significant difference in language in course instruction in SWAYAM MOOCs portal between public and private higher education institutions students/scholars.

Table IV- Problem with Language of Instruction

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.349a	2	.114
Likelihood Ratio	4.239	2	.120
Linear-by-Linear Association	2.743	1	.098
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.88.			

From the result of the Chi square test of Association as shown in the Table – IV revealed that the hypothesis H₀2 is not rejected. Hence it can be said that problem of language in course instruction while using SWAYAM MOOCs by the students/scholars did not differ by the management type of the higher education institution, χ^2 (2, N=200) = 4.349, p-value = 0.114. Evidence from the sample demonstrates that there is no appreciable difference among students and scholars from Government and Private Higher Education institutions' regarding problem of language in course instruction when attempting to attend SWAYAM MOOCs.

RQ 3: Is there any difference between public and private higher education institutions' students/scholars on lack of in-person interaction in SWAYAM MOOCs portal?

H₀3: There is no difference in lack of in-person interaction in SWAYAM MOOCs portal between public and private higher education institutions' students/scholars.

H_a3: There is a significant difference in lack of in-person interaction in SWAYAM MOOCs portal between public and private higher education institutions' students/scholars.

Chi-square test of association revealed an appreciable difference in lack of in-person interaction while using SWAYAM MOOCs between students/scholars from

Government and Private Higher Education institutions'. The hypothesis H03 is rejected, χ^2 (2, N=200) = 9.454, p-value = 0.009 (see Table V)

RQ 4: Is there any difference in perception between public and private higher education institutions' students/scholars on lack of group discussion in SWAYAM MOOCs portal?

H₀4: There is no difference in perception regarding lack of group discussion in SWAYAM MOOCs portal between public and private higher education institutions' students/scholars.

H_a4: There is a significant difference in perception regarding lack of group discussion in SWAYAM MOOCs portal between public and private higher education institutions' students/scholars.

Table V- Lack of in Person Interaction

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.454a	2	.009
Likelihood Ratio	14.612	2	.001
Linear-by-Linear Association	2.506	1	.113
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.53.			

The Chi-square association test did not show appreciable difference in lack of group discussion between students and scholars from Government and Private Higher Education institutions', χ^2 (2, N=200) = 4.139, p-value = 0.126, which means that perception of students and scholars from Government and Private Higher Education

Table VI- Lack of Group Discussion

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.139a	2	.126
Likelihood Ratio	4.044	2	.132
Linear-by-Linear Association	3.810	1	.051
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.42.			

institutions' had no difference regarding lack of group discussion (see Table VI).

RQ 5: Is there any difference between public and private higher education institutions' students/scholars on difficulty in understanding SWAYAM MOOCs materials?

H₀5: There is no difference in difficulty in understanding SWAYAM MOOCs materials between public and private higher education institutions' students/scholars.

H_a5: There is a significant difference in difficulty in understanding SWAYAM MOOCs materials between public and private higher education institutions' students/scholars.

A Chi-Square Test of Association was performed to assess the degree of difficulties regarding understanding SWAYAM MOOCs materials between public and private higher education institutions' students/scholars. Result revealed that there was no significant difference between the two variables, χ^2 (2, N=200) = 2.395, p-value = 0.302 (see Table VII). Therefore, Ho5 is not rejected as evidence from the sample demonstrates that there is no appreciable difference in understanding SWAYAM course material between students and scholars of Government and Private Universities.

Table VII- Difficulty in Understanding Course Materials

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.395a	2	.302
Likelihood Ratio	2.341	2	.310
Linear-by-Linear Association	1.408	1	.235
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.58.			

Conclusion: The intension of the current study is to identify the fundamental challenges faced by students and scholars of Higher education while engaging in SWAYAM MOOCs and the researchers tried to evaluate the degrees of perception of these issues among students and scholars of public and private universities and colleges while pursuing courses on SWAYAM MOOCs platform. The SWAYAM MOOCs platform started in 2016, yet due to

the gradual rise in awareness among students and faculty and scholars, the success of this innovation is too low in India²¹. The stakeholders in MOOCs confront numerous hurdles, as shown by important earlier studies; however the current study solely addresses the fundamental problem defined by the researchers.

The results of the study demonstrate that completion rates in SWAYAM MOOCs are still low when compared to certification and course enrollments. The majority of social science and humanities students and scholars from public and private universities have trouble connecting to the SWAYAM MOOCs platform, which negatively affects the performance of most students. There is also a significant difference in performance between students and scholars from public and private universities when it comes to the poor internet issue. The majority of students and scholars find that group discussions and in-person interactions to be problematic in SWAYAM MOOCs. However, there are differences in perception between students and scholars at private and public universities and colleges when it comes to in-person interactions, but there exist no difference in relevant group discussion. It is clear that in-person interactions affect students/scholars more than group discussions. Difficulty level in understanding the course materials has not been a major challenge of SWAYAM MOOCs in Higher Education as proved in the research through students/scholars perception.

Finally, we can draw the conclusion that SWAYAM MOOC initiatives have a low success rate in Higher Education in India because of these difficulties. To address these issues, it is imperative for students, scholars, and MOOCs providers on the SWAYAM portal for Higher Education to generate public awareness and garner support, leading to prompt government intervention.

Research Implications: The challenges that SWAYAM MOOCs currently pose to academics and course providers must be highly impacted by this study in order to force them to reconsider these issues. Also this study may stimulate the academicians to know the state of SWAYAM MOOCs so that they can take right measures regarding these issues. This study is also provided as motivating to the young researchers in near future so that they can ponder about the degrees of problems considering different variables like urban and rural, central and state university students, teachers and students, duty of

government and higher education institutions etc. □

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