

An Inclusive Analysis to Study Challenges in Building Student Retention Rate on MOOC Platforms – Technology in Education

Dr. Pushpendu Rakshit¹ and Dr. Pramod Kumar Srivastava²

¹Amity Business School Mumbai, Amity University Maharashtra, India

Email: Pushpendu_rakshit@yahoo.com

²School of Business, Galgotias University, Greater Noida, India

Abstract—From Individual Guides to a more diverse group and from varied expertise/domains to many podia of massive open online courses (MOOCs) now are most commonly readily available to access. Some of them even recommend pre-courses if required before commencing with the MOOC. Although India as a developing country leads involvement in MOOCs in Asia, some factors that could challenge the feasibility of MOOCs in India could include: the traditional mindset of examination, habit of attending classes for records, network, access to hardware due to economic constraints, diversity of languages, the habit of memory-based learning, low involvement in self/ research-based learning/ skill-based learning, ethnicity, the credibility of employability quotient after MOOC, (Rai & Chunrao) only collecting, storing data but also reading, lack of guidance on the utility of material, increased interest in Audio – Visual and ppt rather than reading, lack of face to face learning atmosphere, lack of hands-on experience, etc. However, research studies indicate that even where the resources were present, the willingness to learn using MOOCs was negligible. This study is based on primary data collected via random sampling method from 150 respondents [students and faculties]. The literature reviews help to understand that there have been studies in past but not much on the current crisis of pandemic. Thus, such a study would help to examine the student engagement on these diversifies MOOC platforms. This study is explorative in nature, which outcomes demonstrating challenges and probable solutions to the student engagement on MOOC platforms in Universities.

Index Terms— MOOC, challenges, potentials, student retention rates, paradigm shift.

I. INTRODUCTION

MOOCs have (Chatterjee & Nath, 2014) evolved - From Radio to Television to Open university system to Online mode. From Individual Guides to a more diverse group of Guides from varied expertise/ domains as required by the course. Many MOOCs now have the set of most commonly asked questions readily available to access. Some of them even recommend pre-courses if required before commencing with the MOOC. (Hooda, 2018) The two types of MOOCs are XMOOCs, which include Instructor focused teaching techniques, and MOOCs which include Learner focused teaching techniques. (Mohan, Upadhyaya, & Rajasek, 2020) The usage of MOOCs is influenced by the geographical regions and the Socio-economic and needs of the users. It is also impacted by the perceived qualities, likes/dislikes, involvement, understanding, satisfaction, intention,

engagement, attitudes, self-engagement, etc of the user. MOOCs have been offered in three stages, stage 1 being the Free content stage, stage 2 being the Advance/ Paid content stage, and stage 3 being the Proficiency testing/ Certification stage. (Nagasampige, Subbaiah, & Nagasampige) This has helped identify and aggregate the MOOC users into 3 kinds, these being – the Casual/ Keen user, interested user, and the user who wants to develop Professional competencies from MOOC, the usual trend being a reduction in the number of users from stage 1 to stage 3. (Biswas & Sarkar) (Hooda, 2018) The government has taken several initiatives to encourage MOOCs in India through its platforms including IGNOU, Shishiya, Swayam, Vidya Vahini, etc and several departments including Education and Research Network (ERNET), EDUSAT, CEC, etc. (UGC Moocs, n.d.) Swayam is the latest initiative offered by the Government of India to support the MOOCs initiative in different ways.

Top institutes like IITs and IIMs have always been involved in MOOCs but the other institutes are still inadequate. Although India as a developing country leads involvement in MOOCs in Asia, some factors that could challenge the feasibility of MOOCs in India could include: the traditional mindset of examination, habit of attending classes for records, network, access to hardware due to economic constraints, diversity of languages, the habit of memory-based learning, low involvement in self/ research-based learning/ skill-based learning, ethnicity, the credibility of employability quotient after MOOC, (Rai & Chunrao) only collecting, storing data but also reading, lack of guidance on the utility of material, increased interest in Audio – Visual and ppt rather than reading, lack of face to face learning atmosphere, lack of hands-on experience, etc. However, research studies indicate that even where the resources were present, the willingness to learn using MOOCs was negligible. (Biswas & Sarkar) The advantages of MOOC include flexibility in terms of timings and pace, Multi-media platform, global audience, etc. Growth of MOOC in India in recent times could have been because of the rock-bottom prices of Internet services provided by Reliance Jio, free time available during the COVID -19 Pandemic, (Yanxuan) joint effort between MOOC providers and corporates to provide promised employment after completion of the MOOC. Some of the resources available for MOOCs in India include HBX, Coursera, Udacity, etc.

II. LITERATURE REVIEW

(Nisha & Senthil) Talks about the Feasibility of MOOCs in developed countries like the USA, Australia, and India citing previous studies and the perspective of top academic institutions & companies considering their utility, Technology, Team size, Costing, etc involved. Concludes how MOOCs are feasible in India despite its challenges including distance, Assessment, support, etc with a little government support and intervention. (Yanxuan) Talks about how the use of MOOCs differ based on the geographical and socio-economic factors and perceived utility across regions. (Chatterjee & Nath, 2014) Talks about the gaps involved in offering MOOCs despite its benefits. (Rai & Chunrao) Talks about how student learning behaviours differ while learning from MOOC and in the traditional form of learning. It is dominated by individual student agendas and their perception. Human intervention has a big role to play. (Hakami, White, & Chakaveh) Talks about different learner related factors including Personal, Social, Educational, and Professional influencing the use of MOOCs from the learner's perspective and how these factors differ geographically. (Biswas & Sarkar) Talks about the features, advantages of MOOC along with its challenges mentioning that the benefits of MOOC can only be reaped if and when multi-dimensional localization efforts are made. (Hooda, 2018) Talks about MOOCs as a fresh field still offering much exploration of its benefits and challenges concerning India from a Professors point of view. (Mohan, Upadhyaya, & Rajasek, 2020) Talks about MOOC's adoption and completion rates and important factors that influence behaviour to complete MOOC using both Qualitative and Quantitative research. (Nagasampige, Subbaiah, & Nagasampige) Talks about the awareness of and reasons for participation in MOOCs in Teachers and students at graduation and post-graduation levels.

We identified certain GAPS affecting the participation of Indian college students in MOOCs:

1. Availability of Hardware & Software Technology
2. Availability of sufficient credibility for placement/ job
3. Availability of time
4. Languages concern
5. Your top priority of the existing program you are pursuing?
6. Do you prepare for the class before attending it?
7. Questions on self-awareness, comfort,

III. RESEARCH METHODOLOGY

This is explorative research. Mentioning the major aims, this study used both qualitative and quantitative methods that are a mixed-method having an amalgamation of primary and secondary sources. The qualitative data chains the quantitative data analysis and results. We have collected data through a survey via random sampling method from 150 respondents within the geographical location of Navi Mumbai. Subsequently, the survey fashioned valuable data which was indispensable to reach the study objectives. The result gained is triangulated since the academicians used the qualitative and quantitative data types in the data analysis. The learning entails a sequence of well-structured questionnaires (faculties and students). This data analysis on SPSS 22.0 emphasizes on numerical/quantitative data analysis and completed using cross-tabulation/chi-square and correlation. Thus, this design proposes a profile of designated relevant aspects of the phenomena of interest from a student and academicians and academic establishments. Therefore, this study design assisted in pleat data from a mixed range of respondents present on virtual learning culture podia. The consistency of interrelationship between variables is tested via Cranach's alpha as shown in table 1. The reliability of internal variables is measured based on Cronbach's alpha value. The reliability coefficient of 0.70 is well-thought-out "acceptable" in most research conditions.

Hypothesis

- (i) There exists a statistical correlation between traditional teaching practices and paradigm shifts with MOOCs.
- (ii) There exists a statistical difference between achieving satisfaction on teaching/learning on MOOC platforms and that with classroom learning.

IV. DATA ANALYSIS AND FINDINGS

TABLE I. RELIABILITY TEST

Case Processing Summary				Reliability Statistics		
		N	%			
Cases	Valid	150	100.0			
	Excluded ^a	0	.0			
	Total	150	100.0			
				Cronbach's Alpha	Based on	
				Cronbach's Alpha	Standardized Items	N of Items
				.811	.738	9

a. Listwise deletion based on all variables in the procedure.

Hypothesis i

- H0 - There exists a statistical correlation between traditional teaching practices and the paradigm shift with MOOC.
- H1 - There exists no statistical correlation between traditional teaching practices and the paradigm shift with MOOC.

TABLE II. HYPOTHESIS TESTING

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender *						
Comfortable teaching/ learning from Online courses	150	100.0%	0	0.0%	150	100.0%

Crosstabulation				
Count		Comfortable teaching/ learning from Online courses		
		1	2	3
Gender	1	16	26	19
	2	22	28	39
Total		38	54	58
				150

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.788 ^a	2	.248
Likelihood Ratio	2.808	2	.246
Linear-by-Linear Association	1.162	1	.281
N of Valid Cases	150		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.45.

As the Pearson Chi-Square significant level is $0.248 > 0.05$ from the results-driven thus null hypothesis H0 is accepted and alternate hypothesis H1 is rejected showing a good fit. Thus, we conclude that there exists no statistical correlation between traditional teaching practices and paradigm shift with MOOC.

Hypothesis ii

H0 - There exists a statistical difference between achieving retention satisfaction on teaching /learning on MOOC platforms and that with classroom learning.

H1 - There exists no statistical difference between achieving retention satisfaction on teaching/learning on MOOC platforms and that with classroom learning.

TABLE III. HYPOTHESIS TESTING

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * satisfaction on teaching / learning on MOOC platforms and that with classroom learning	150	100.0%	0	0.0%	150	100.0%

Crosstabulation				
Count		satisfaction in teaching/learning on MOOC platforms and that with classroom learning		Total
		1	2	
Gender	1	21	40	61
	2	21	68	89
Total		42	108	150

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.106 ^a	1	.147		
Continuity Correction ^b	1.603	1	.205		
Likelihood Ratio	2.085	1	.149		
Fisher's Exact Test				.195	.103
Linear-by-Linear Association	2.092	1	.148		
N of Valid Cases	150				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.08.

b. Computed only for a 2x2 table

As the Pearson Chi-Square significant level is $0.147 > 0.05$ from the results-driven thus null hypothesis H₀ is accepted and alternate hypothesis H₁ is rejected showing a good fit. Thus, we conclude that there exists a statistical difference between achieving retention satisfaction on teaching/learning on MOOC platforms and that with classroom learning.

V. CONCLUSION

This study helped to understand the impact of pacing MOOC learning in the Indian education system. There exist diversified issues and challenges such as internet connection availability, speed, availability of software, hardware, etc. followed by computer and cyber literacy. Thus, we need to understand that still it would consume a good amount of resources and strategies to imbibe virtual learning practices in our country. There exists a digital divide that can't be ignored and thus we must work upon to strengthen the education system. MOOC is a good platform and the qualifications achieved by such platforms must also be accepted by both employers as well as by academic fraternity. Thus, our study is an eye-opener driving our attention towards the adoption of virtual platforms and increasing challenges towards student engagement and retention. Adequate knowledge/content along with innovative online deliver practices with a good degree of confidence can support overcoming such challenges.

IMPLICATIONS

This study would help to understand the teaching/instructional/facilitation practices which would support student engagement/retention on virtual / MOOC platforms.

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