BARRIERS TOWARDS THE ADOPTION OF DIGITAL LEARNING PLATFORMS

Sayantan Khanra, School of Business, Woxsen University
Manikanta Budankayala, School of Business, Woxsen University
Surya Tej Doddi, School of Business, Woxsen University

ABSTRACT

The Covid-19 pandemic accelerates the enrolments on courses available on digital learning platforms, or Massive Open Online Courses (MOOC). However, many candidates are dropping out of these courses. This study aims to identify potential factors that motivate students to drop-out from online courses. A qualitative survey is conducted among such students. Data from the qualitative survey is analyzed following a Meta-ethnography approach. The study findings suggest that the factors affecting the students' adoption of MOOCs may be broadly classified into four groups that represent usage barrier, value barrier, tradition barrier, and image barrier, respectively. Findings from the meta-ethnographic study are validated with a focused group discussion. As the Covid-19 pandemic is irreversibly digitizing the learning processes, findings from this study offer important implications for educators offering online courses and managers of learning platforms.

Keywords: Digital Learning Platforms, Coursera, MOOC, Innovation Resistance, Online Education, Covid-19 Pandemic.

INTRODUCTION

In the recent years, digital learning platforms revolutionized the learning environment by providing cost-effectiveness to educators and convenience to learners, in comparison with the conventional education systems (Aydin & Yazici, 2020). A digital learning platform, also referred to as 'Massive Open Online Courses' (MOOC) (Clow, 2013), is an environment where a course curriculum is partially or fully delivered through online mode (Skryabin, 2017). MOOCs are becoming boon for a growing number of learners to get involved and continue their education (Lushnikova et al., 2012). MOOCs, Coursera (www.coursera.org), Udacity (www.udacity.com), EdX (www.edx.org), among others, have played major roles in advancing the use of MOOCs in the mainstream learning process. Forbes categorised MOOCs according to their speciality. For instance, Udemy for average learner, Skill Share for creatives, and Coursera for academics (Delfino, 2020).

MOOCs partner with different prestigious institutions to offer online courses to anybody interested in attending those courses (Kawamorita et al., 2020). MOOCs give individuals opportunities to learn from experts who are vastly acclaimed and highly regarded in their respective fields (Markovic et al., 2012). Thus, the introduction of virtual environments into higher education may bring a positive change in the learning experience (Liarokapis et al., 2011). MOOCs smoothen the delivery of knowledge and accessibility of information, as internet connectivity and multimedia technologies improved over time (Markovic et al., 2012). Moreover, the Covid-19 pandemic further accelerate the enrolments on MOOCs in recent times. For example, Coursera observed as much as 50 percent growth in its user base in mid-2020 from that in end-2019 (ICEF, 2020). Individuals need to upskill themselves the uncertain times of Covid-19 pandemic, as the organizations are quickly

adapting to advanced technologies (Khanra & Joseph, 2017; Ruparel et al., 2020), such as big data analytics (Khanra et al., 2020), and blockchain (Tandon et al., 2020), among others.

As the number of individuals enrolling for MOOCs is increasing, it is important to ensure that they do not drop out of MOOCs. Prior studies point out several reasons for dropping out of MOOCs (Willging & Johnson, 2016), as consequently discussed. First, the low terminal efficiency rates of MOOCs reveal a lack of self-regulation and self-motivation among some students (Lushnikova et al., 2012). Second, the student's compromise level may diminish as the courses move forward (Clow, 2013). Third, MOOCs do not provide adequate attention to make components of effective learning available to students, motivate them with institutional support, and promote the development of interpersonal relationships (Clow, 2013; Lushnikova et al., 2012; Willging & Johnson, 2016). Therefore, through understanding of the barriers affecting the adoption of MOOCs may be a valuable addition to the extant literature (Salamzadeh, 2020). However, there is a research gap regarding the exploration of barriers towards the adoption of MOOCs, particularly when students are motivated to attend MOOCs in absence of traditional classes during the Covid-19 pandemic. We intend to address this research gap with a Meta-ethnography study (Noblit & Hare, 1988).

A total of 39 postgraduate students who have confirmed that they dropped out of at least one course on Coursera constitute the sample of this study. The findings from their responses suggest that the factors affecting students' adoption of MOOCs may be broadly classified into four groups that represent usage barrier, value barrier, tradition barrier, and image barrier, respectively. To large extent, our study findings are in line with the Innovation Resistance Theory (Ram & Sheth, 1989), which posits that a superior innovation may face high degree of user resistance due to functional factors of the innovation and psychological attributes of a user. This study may offer valuable implications to learners, educators, and knowledge resource managers, for better use of MOOCs in the post-Covid-19 era. Such implications may help MOOCs dodge risks associated with value creation in emerging markets (Khanra & Dhir, 2017)

We structure this paper in seven sections. The second section explains the research method followed in this study. The third section presents the study results, and the fourth section discusses the study findings. The fifth section highlights the study implications. We acknowledge the limitations of our study and recommend future scopes to extend this study in the sixth section, prior to concluding this paper in the seventh section.

METHODOLOGY

We follow the Meta-ethnography approach in this study, because the approach is suitable to deliver valuable insights, even from a small sample (Khanra & Joseph, 2019a) The Meta-ethnography approach includes seven sequential stages (Noblit & Hare, 1988), dedicated to identifying an intellectual interest, collecting data, reviewing data, finding analogies among constructs from different datasets, juxtaposing constructs from different datasets, grouping constructs from different datasets, and synthesizing themes of the groups, respectively.

Data is collected from an online survey among the students at the School of Business, Woxsen University, located in the Indian state of Telangana. We circulated an essay-type questionnaire to all of 112 postgraduate students in the second year at the institute on July 22, 2020. A total of 39 respondents who confirmed that they dropped out of at least one course on Coursera could respond to the following questions:

1. Why did you join the course(s)? What were your expectations?
2. What do you not like about the course(s)? Explain with examples.

3. What changes do you recommend so that lesser people drop-out from the course(s)? Explain with examples.
4. Do you talk about these course(s) among your friends? What do you say to them? What do they tell you?
5. Would you like to pursue other course(s) on the same platform? Why so / why not?

The respondents are assured for the anonymous record of data, and they are informed that their responses will not be shared with anyone except the team members conducting the study. Participation in the study is purely voluntary, as no incentives are offered to the respondents. We review the qualitative data obtained from the respondents with due attention to detailed information about possible factors that drove them to drop out of Coursera courses. Then, we attempt to find analogies among these factors, juxtapose the factors, and appropriately assign them in groups. Next, we synthesize themes of the groups emerging from the qualitative survey and validated the themes with a focused group discussion (FGD).

RESULTS

Exploring Analogies Among Factors

We translate factors from one dataset into those of another, and vice versa, based on our understanding of the premise and details mentioned by the respondents. For instance, respondent R2 highlights the difficulty in understanding MOOCs, possibly because the courses are *'very tough'* (R39) and burdened with jargons (R39). Consequently, we find that the factors may be largely assigned to four groups, as reported in Table 1.

Table 1
JUXTAPOSITION OF FACTORS BEHIND DROPPING OUT FROM MOOCS

Group	Problems
Group 1	Can't understand (R2), Difficult interface (R8), Assessment procedures are complex (R11), Lengthy sessions (R13), No subtitles (R19), No flexible timings (R20), Lengthy assignments (R21), Can't use interface (R29), Complex topics (R38), Very tough (R39), More jargon terminology (R39)
Group 2	Demo videos are not provided (R1), Less subjective knowledge (R3), Slow paced (R4), Less creative (R4), No perks provided (R5), Unwanted quizzes (R12), Less practical examples (R16), Less creativity (R20, R22, R25, R33, R35, R37)
Group 3	Cannot concentrate (R2), Slow paced (R4), No steady walkthrough (R5), One-way interaction (R7), Less interaction (R10, R14, R15, R20, R24, R 27, R32)
Group 4	Perks not provided (R6), Unwanted quizzes (R13), Accent unrecognizable (R18, R19), Zero practical exposure (R25), Inefficient and unreliable (R37)

Summary of Study Findings

Factors belonging to the same group provide related, if not similar, information about their meaning. Thus, we summarize the information by eliminating repetitive points indicated by different factors within each group. Subsequently, we identify that the factors affecting the students' adoption of MOOCs are like the four out of five barriers (except risk barrier) proposed in Innovation Resistance Theory (Ram & Sheth, 1989). Findings from the meta-ethnography study are summarized in Table 2.

Table 2
SYNTHESIZED THEMES

Theme	Details
Usage barriers	1. Topics covered in lectures are often complex to understand on online mode
	2. The pedagogy followed in lectures are often tough to follow

	3. No subtitles are provided for many video lectures
	4. Heavy use of jargons often makes lectures complex for many learners
Value barriers	1. Contents delivered in lectures are often of poor quality
	2. Lectures often discuss irrelevant and unwanted information
	3. Lectures often provide lengthy and unnecessary assignments
	4. Presentations in lectures are boring and lack creativity
Tradition barriers	1. It is difficult to concentrate on the topic discussed online
	2. No live interaction between the instructor and the students
	3. Doubt clearing sessions are generally unavailable post lectures
Image barriers	1. Instructors' accents are often incomprehensible
	2. Lectures do not deliver practical knowledge
	3. Course materials used in lectures are unreliable or unrelatable

Validity of Study Findings

Establishment of the validation of study findings with a follow-up study ensures the robustness of the findings (Khanra & Joseph, 2019b; Khanra et al., 2019). Therefore, we invited 112 students whom we earlier approached for the qualitative survey to participate in an FGD, if they have dropped out from a MOOC. Five students (Aged 22-24 years, 3 males) volunteered to participate in the FGD that was conducted online. We identified six new factors from the FGD. However, Table 3 reports that these factors are connected to four barriers we identified. Hence, the inputs from FGD confirms the validity of the findings from the meta-ethnographic study.

Table 3
VALIDATION OF STUDY FINDINGS WITH A FOCUSED GROUP DISCUSSION

Participant	Usage barrier	Value barrier	Tradition barrier	Image barrier
P1	-	-	No seriousness in writing exams	-
P2	Technical Constraints – poor internet connectivity	Misleading titles – wastage of time	-	-
P3	-	-	No strict examination patterns	-
P4	-	Unwanted information and topics	-	-
P5	-	-	-	Not valued by employers

DISCUSSION

As the Covid-19 pandemic increasingly necessitate enrolment to MOOCs, a concerning number of candidates are dropping out of these courses. For instance, as many as 39 out of 112 postgraduate students in the second year at a prominent institute for management studies in India anonymously confirmed in our survey that they have dropped out from at least one course on Coursera. Thus, it is timely and important to identify potential factors that motivate students to drop-out from online courses. The findings from this study suggest that the factors affecting the students' adoption of MOOCs may be broadly classified into four groups that represent usage barrier, value barrier, tradition barrier, and image barrier, respectively.

Some of our findings are in line with prior research (Aragon & Johnson, 2008; Aydin & Yazici, 2020; Skryabin, 2020). For instance, students drop out of MOOCs because of different usage barriers, course communication (Aragon & Johnson, 2008), technological constraints (Aragon & Johnson, 2008), and inaccurate understanding of prior knowledge requirements (Skryabin, 2020). Prior research also shed some light on value barriers like loss of interest in boring lectures (Aydin & Yazici, 2020), and weak course curriculum (Mogadam et al., 2012). Furthermore, Aragon and Johnson (2008) highlight that learning preference is

an important barrier to adopt the learning from MOOCs, as identified in the tradition barrier in our study.

Some of our findings offer newer insight to the extant literature. For example, respondents to our study did not complain about a lack of expert professors (Mogadham et al., 2012). This indicates that MOOCs for management education on Coursera are instructed by expert professors. Prior researchers suggest that students may drop out of MOOCs because of inflexibility in course completion (Mogadham et al., 2012), and commitments to other engagements in work or school (Aydin & Yazici, 2020). Respondents to our study do not raise these points, probably because our study is conducted when India observed a nationwide lockdown to combat the spread of Covid-19. Furthermore, our study introduces the role of image barriers towards the adoption of MOOCs to the literature on digital learning.

IMPLICATIONS

Theoretical Implications

As one of the earliest studies to identify potential factors that motivate students to drop out of online courses during the Covid-19 pandemic, the present study is a valuable addition to the literature. Findings from this study connect well to the Innovation Resistance Theory (Ram & Sheth, 1989) in the context of digital learning. For instance, students face a usage barrier when subtitles are not available on MOOCs. Students face value barriers when they feel that the quality of contents in MOOCs are poor, and MOOCs provide unwanted information. Students face a tradition barrier due to a lack of interaction between an instructor and them. Students face image barriers when they perceive that accents of foreign instructors are difficult to understand, and MOOCs focus on sharing theoretical knowledge more than sharing practical knowledge. Thus, the present study adds to the existing literature guided by the Innovation Resistance Theory (Ram & Sheth, 1989).

Practical Implication

The findings from this study are important to learners as they may self-evaluate a MOOC based on skill requirements for the course before opting for the course. For educators, the findings from this study may help to improve creativity in their presentation of the modules. Library professionals and knowledge resource managers may build repositories of MOOCs that offer low levels of barriers that are identified in this study. As MOOCs are gaining importance in the mainstream classrooms, policymakers in the education sector may develop a framework to improve the effectiveness of MOOCs lowering the barriers identified in this study. Managers of MOOCs may take note of the four scopes of improvement of MOOCs: first, the MOOCs may use an efficient user interface which should be accessible to all the learners irrespective of their technical knowledge; second, course titles and descriptions must follow certain guidelines to avoid misleading students; third, learning assessment process should be structured in order to restrict plagiarism; and fourth, MOOCs should be time-efficient to deliver quality lectures within shorter durations, particularly for working professionals.

LIMITATIONS AND FUTURE SCOPES

As the Covid-19 pandemic is irreversibly digitising the learning processes, this study may guide future research on digital learning and pedagogy in management studies.

Limitations

Our study findings are subject to inherent limitations of the study, as subsequently acknowledged. First, the study sample includes students from one institute in India. Therefore, future researchers may replicate our study in different contexts to increase the generalisability of our study findings. Second, the study findings are established on responses from post-graduate students in management studies. We recognise that the factors for dropping out from online courses may vary in case of different demographic groups. Third, respondents to our qualitative survey have free access to the MOOCs they dropped-out from. Intention to drop-out from a MOOC may decrease when students pay for a course. Fourth, the survey follows a convenience sampling method to cope up with resource constraints. Future researchers may explore the use of sophisticated sampling techniques to extend our study findings.

Future Scopes

We recommend three avenues of future research to extend the findings of our study, as subsequently discussed. First, this study examines the disparities in enrolment to Coursera courses and self-directed learning characteristics of both completers and non-completers. The research acquired self-reported reasons from students failing to complete their coursework on Coursera. This analysis may be repeated by researchers in the context of other MOOCs. Furthermore, future studies may replicate our study after few years to determine whether our study findings are relevant in the post-Covid-19 era. Second, this study qualitatively explores why did students drop out of courses. Our synthesised findings may pave ways for empirical studies in the future. Future researchers may create a close-ended questionnaire using the key pointers in Table 3 as scale items. Empirical studies may provide a better picture of the causes, goals, and motives behind persistence to attend MOOCs. Third, future research may be undertaken to better understand how online courses improve the retention of students who otherwise struggle to complete courses in higher educational institutions. Such studies are important to understand the efficacy of MOOCs to remove obstacles in traditional study environment.

CONCLUSION

The objective of the study is to explore the barriers which affect the students to adopt the learning from MOOCs. The objective is met with a qualitative study following the meta-ethnography approach. We found meta-ethnography to be a suitable systematic process to qualitatively synthesise the barriers towards the adoption of MOOCs. The findings from this study suggest that four such barriers exist in the form of usage barrier, value barrier, tradition barrier, and image barrier, respectively. Our analysis of these barriers during the Covid-19 pandemic may improve MOOCs in the post-Covid-19 era.

REFERENCES

Aragon, S., & Johnson, E. (2004). Factors influencing completion and non-completion of community college online courses. In L. Cantoni & C. McLoughlin (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia & Telecommunications* (pp. 3498-3505). Lugano, Switzerland.

Aydin, I.E., & Yazici, M. (2020). Drop-Out in MOOCs. *Turkish Online Journal of Educational Technology*, *19*(3), 9-17.

Clow, D. (2013). MOOCs and the funnel of participation. In *Proceedings of the third international conference on learning analytics and knowledge*, 185-189.

Delfino, D. (2020). Here Are Some of The Best Online Learning Platforms Right Now. *Forbes*. Retrieved on September 10, 2020 from: http://tiny.cc/forbe.

ICEF (2020). Slower growth in new MOOC degrees but online learning is alive and well. *ICEF Monitor*. Retrieved on September 10, 2020 from: http://tiny.cc/ICEF

Kawamorita, H., Salamzadeh, A., Demiryurek, K., & Ghajarzadeh, M. (2020). Entrepreneurial Universities in Times of Crisis: Case of Covid-19 Pandemic. *Journal of Entrepreneurship, Business and Economics, 8*(1), 77-88.

Khanra, S., Dhir, A., & Mäntymäki, M. (2020). Big data analytics and enterprises: a bibliometric synthesis of the literature. *Enterprise Information Systems*, *14*(6), 737-768.

Khanra, S., Dhir, S. (2017). Creating Value in Small-cap Firms by Mitigating Risks of Market Volatility. *Vision: The journal of Business Perspective, 24*(4), 350-355.

Khanra, S., & Joseph, R.P. (2017). Adoption and Diffusion of e-Government Services: the Impact of Demography and Service Quality. In *Proceedings of the 10th International Conference on Theory and Practice of Electronic Governance*, 602-605.

Khanra, S., & Joseph, R.P. (2019a). E-Governance Maturity Models: A Meta ethnographic Study. *The International Technology Management Review 8*(1), 1-9.

Khanra, S., & Joseph, R.P. (2019b). Adoption of e-Governance. *Transforming Government: People, Process and Policy*, *13*(2), 122-142.

Khanra, S., Joseph, R.P., & Ruparel, N. (2019). Dynamism of an e-Government Network in Delivering Public Services. *Academy of Management Global Proceedings 2019*, 376.

Liarokapis, F., Doulamis, A. & Vescoukis, V. (2011). In *Proceedings of the Third International Conference on Games and Virtual Worlds for Serious Applications. IEEE: Athens.*

Lushnikova, N., Chintakayala, P., & Rodante, A. (2012). Massive Open Online Courses from Ivy League universities: benefits and challenges for students and educators. In *XI International Conference "Providing continuity of content in the system of stepwise graduate and postgraduate education", National University of Water Management and Nature Resources Use, Rivne, Ukraine*.

Markovic, M.R., Markovic, D., Demiray, U., Demiray, E., Vucekovic, M., & Salamzadeh, A. (2012). Fostering entrepreneurship in higher education through e-learning: Case study of Serbia and Turkey. In *1st Annual International Conference on Employment, Education and Entrepreneurship*, Serbia: Belgrade.

Markovic, M.R., Salamzadeh, A., Markovic, D., Grozdanic, R., & Vucekovic, M. (2012). e-Learning in business and entrepreneurship: Evidence from Serbia, Iran, and India. In *1st Annual International Conference on Employment, Education and Entrepreneurship, Serbia: Belgrade.*

Mogadam, S.J., Zaefarian, R., & Salamzadeh, A. (2012). Challenges of entrepreneurship e-education: Evidence from a developing country. In *Entrepreneurship Education- A Priority for the Higher Education Institutions*, Bulgaria.

Noblit, G.W., & Hare, R.D. (1988). *Meta-ethnography: Synthesizing qualitative studies (Vol. 11)*. Sage, California, US.

Ram, S., & Sheth, J.N. (1989). Consumer resistance to innovations: the marketing problem and its solutions. *Journal of Consumer Marketing*, *6*(2), 5-14.

Ruparel, N., Dhir, A., Tandon, A., Kaur, P., & Islam, J.U. (2020). The influence of online professional social media in human resource management: A systematic literature review. *Technology in Society*, In press, doi.org/10.1016/j.techsoc.2020.101335.

Salamzadeh, A. (2020). What constitutes a theoretical contribution? *Journal of Organizational Culture, Communications and Conflicts*, *24*(1), 1-2.

Skryabin, M. (2017). Types of Dropout in Adaptive Open Online Courses. In *European Conference on Massive Open Online Courses* (pp. 273-279). Springer, Cham.

Tandon, A., Dhir, A., Islam, N., & Mäntymäki, M. (2020). Blockchain in healthcare: A systematic literature review, synthesizing framework and future research agenda. *Computers in Industry*, *122*, 103290.

Willging, P.A., & Johnson, S.D. (2009). Factors that influence students' decision to drop out of online courses. *Journal of Asynchronous Learning Networks*, *13*(3), 115-127.