REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received 04.10.2024 Revised 30.11.2024 Accepted 18.12.2024

Demographic and Experiential Factors in Postgraduate MOOC Satisfaction: Evidence from Northeast India

Juli Saikia[1], Dr. R. D. Padmavathy[2]

[1] Research Scholar, Department of Education, Tezpur University (Central), Assam, India
[2]Assistant Professor, Department of Education, Tezpur University (Central), Assam, India

***Corresponding Author:** Dr. R. D. Padmavathy
*Email: padmajothi@yahoo.in

Abstract
This study examines the satisfaction of postgraduate students with Massive Open Online Courses (MOOCs) in universities across Northeast India, using a descriptive survey design. A sample of 120 postgraduate students from various universities in the area comprises the population; the participants were selected using purposive sampling. To gather data self-constructed "MOOCs Satisfaction Assessment Scale (MSAS)" was used to assess learners' satisfaction with MOOCs in several areas, such as system quality, service quality, and course quality. Descriptive statistics like mean, standard deviation, percentage, and frequency were used in the analysis, coupled with inferential methods like ANOVA to look at the effect of demographic variables. According to the results, the majority of postgraduate students expressed a moderate level of satisfaction with MOOCs. However, no significant differences were found in satisfaction levels across age groups or based on prior MOOC usage experience, suggesting that these variables do not significantly influence overall satisfaction. Gender emerged as a significant factor, with female students expressing higher levels of satisfaction than their male counterparts. The study comes to the conclusion that whereas postgraduate students in Northeast India find MOOCs to be a generally acceptable learning experience, gender-related disparities in satisfaction should be taken into consideration. Furthermore, it is suggested that course quality and user involvement be improved in order to further increase satisfaction. The study adds to our knowledge of how MOOCs are seen in the Indian higher education environment by offering insightful information about how students see them.

Keywords: MOOCs, Satisfaction, Postgraduate, Northeast India

Introduction

Massive Open Online Courses (MOOCs) are becoming increasingly popular in higher education around the world, especially in India (Chakravarty & Kaur, 2016). MOOCs have emerged as a promising option to close educational gaps and improve postgraduate students' learning possibilities in Northeast India, an area recognized for its unique educational problems and diversified cultural landscape (Sharma & Bhattacharya, 2019). Understanding postgraduate students' satisfaction with these online learning platforms becomes essential for guaranteeing their successful deployment and ongoing success as universities in this region use MOOCs into their courses more and more (Das, 2021). With the unique socio-economic and technological environment of Northeast India in mind, the purpose of this research is to investigate the selected demographic factors that impact postgraduate students' satisfaction with MOOCs in universities around the region.

Importance of MOOC satisfaction among postgraduate students

Comprehending the significance of MOOC happiness among postgraduate students is imperative for the efficient execution and enduring prosperity of virtual learning endeavors. A crucial metric for evaluating the efficacy and quality of MOOCs is student happiness, which has a direct impact on learner engagement, retention, and academic achievement (Gameel, 2017). The flexibility and accessibility of MOOCs can be especially appealing to postgraduate students, who frequently juggle advanced coursework with work obligations (Shah & Cheng, 2019). However, a number of variables, such as the technology infrastructure, instructor engagement, and course design, affect how satisfied they are (Deshpande & Chukhlomin, 2017).

According to Hew et al. (2020), a high degree of pleasure can result in better learning outcomes, more motivation, and a higher chance of finishing the course. Additionally, satisfied students are more likely to participate in more online learning opportunities and refer MOOCs to peers, which helps higher education institutions implement digital education more widely (Joo et al., 2018). Therefore, in order for institutions to effectively use online learning platforms and fulfill the changing demands of their various student populations, it is imperative that they measure and improve MOOC satisfaction among postgraduate students.

Literature Review

Past research has widely explored the influence factors on MOOC satisfaction in various contexts and populations. Du (2023) revealed the main determinants, such as schedule flexibility, workload management, video content quality, instructor

effectiveness, and assessment methods, while observing that perceived difficulty, course structure, and interaction had little influence on learners' satisfaction. Khan and Islam (2022) also revealed that course structure, content quality, and general course quality had a positive impact on satisfaction, though interaction factors had no influence. A number of researchers have highlighted the imperative contribution of service and system quality to MOOC satisfaction. Nong et al. (2022) illustrated that service quality was the most significant predictor of satisfaction and continuance intentions for MOOC users. Albelbisi et al. (2020) supported these results by determining system quality as a basic variable affecting user satisfaction. Moreover, Khurana et al. (2019) indicated the significance of system quality and openness of the platform in ascertaining satisfaction levels.

Content and Delivery Factors: The importance of content quality and the means of delivery has repeatedly been proven through various studies. Kumar and Kumar (2020) discovered that the mechanisms of course delivery and content had a significant impact on levels of satisfaction. Jauhari (2020) built an exhaustive framework classifying the factors of satisfaction under content quality, technology infrastructure, feedback mechanisms, and course portal functionality. Anggraini et al. (2018) also identified communication effectiveness, quality of study materials, assessment practices, and grading mechanisms as the vital factors in determining satisfaction.

Demographic and Individual Differences: Whereas demographic variables have been given scant consideration in MOOC satisfaction studies, there has been some evidence of significant patterns emerging. Yue (2022) discovered significant differences in levels of satisfaction across fields of study, with engineering students indicating greater satisfaction given fewer technical issues. This finding implies that the background of the study may have a very significant effect on the MOOC experience. Rabin et al. (2020) found that age was a predictor of barriers to satisfaction, suggesting that demographic factors could have a great influence on how students view and interact with MOOCs. Still, gender-related results are underexplored in current literature. Shrader et al. (2016) investigated patterns of engagement and demographic associations but did not give direct insights into the effects of gender on satisfaction. Vezne (2020) highlighted that interactions in asynchronous courses were experienced differently by different student groups, thus indicating that demographic variables could have an impact on levels of satisfaction, especially in heterogeneous learning environments.

Usage Experience and Satisfaction: The interaction between existing MOOC experience and satisfaction has been explored from different perspectives. Du (2023) illustrated how factors related to use, including course workload, completion status, and familiarity with content, influence students' satisfaction. Lopez et al. (2021) proved that perceived satisfaction substantially predicts users' intent to keep using MOOCs, highlighting the significance of a positive first experience in determining future satisfaction levels. Mulik et al. (2020) identified that positive flow experience when engaging in MOOCs improved acceptance and satisfaction, whereas Matari (2020) found that students enrolled in conventional face-to-face courses were more satisfied than those in the hybrid format. These results demonstrate how varied delivery modes and user experiences can affect satisfaction outcomes.

Despite numerous studies on MOOC satisfaction, there are substantial gaps in the knowledge base regarding demographic influences, most notably gender and age impacts. Although research such as Gulati et al. (2021) and Wang et al. (2021) indicates that user satisfaction is perceived differently based on experience and individual views, extensive demographic variable analysis is sparse. This is especially true when looking at postgraduate students in developing countries, where cultural, technological, and educational variables can uniquely impact MOOC satisfaction trends.

Rationale for study

This research fills an important gap in knowledge about postgraduate students' satisfaction with MOOCs in Northeast India, which is still under-researched in the context of online learning, although it has a diverse linguistic, cultural, and socioeconomic population. Whereas some areas of literature have revolved around several aspects of MOOCs satisfaction among learners in different parts of the world, research on the specific areas of demographic factors of gender and age has been limited, more so when considered in the context of Northeast Indian higher educational institutions. The population of postgraduate students is another type of learner population that has different academic needs and career goals and learning preferences that differ greatly compared to undergraduate populations, and their satisfaction trends regarding MOOCs are currently insufficiently known. This investigation is especially timely and relevant due to the acceleration in the use of online learning platforms in the wake of the COVID-19 pandemic and the focus of India's National Education Policy 2020 on the use of technology in education to guide educational policy and institutional approaches. Also, the results of the study have relevant practical applications to the work of universities and MOOC-providers and administrators of educational establishments in the region as they could improve the course design, delivery, and support services to meet the needs of the postgraduate students. The use of a multi-faceted methodological approach allowing the study of several demographic and experience factors in tandem promotes not only theoretical knowledge but also practical implementations in the sphere of online education and contributes to establishing more productive and inclusive digital learning environments in the postgraduate education of the Northeast Indian state with its shifting higher education environment.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received 04.10.2024 Revised 30.11.2024 Accepted 18.12.2024

Figure 1: Circular Research Framework

Research Objectives

- To assess postgraduate students' general satisfaction with MOOCs in Northeast India.
- To examine the impact of age and gender demographics on postgraduate students' satisfaction with MOOCs.
- To determine how postgraduate students' satisfaction with MOOCs is affected by their MOOC usage experience.

Hypotheses of The Study

- There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs based on gender.
- There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs among age groups.
- There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs among their MOOC usage experience.

Research Methodology

In order to investigate postgraduate students' satisfaction levels with MOOCs in Northeast Indian universities, this study used a descriptive survey design. In order to obtain comprehensive data regarding students' age, gender, experiences, and how they affect their overall satisfaction with the courses, the descriptive survey method was selected. Postgraduate students enrolled in universities in Northeast India, particularly Assam make up the study's population. These students' active participation in MOOCs or their prior completion of them will provide information about how satisfied they are. The study employs purposive sampling to select participants. Purposive sampling is used to ensure that only students with experience in MOOCs are included. A sample of 120 postgraduate students from universities in the region has been selected for this research. This sample size is deemed appropriate for capturing a range of perspectives and ensuring representativeness of students' satisfaction with MOOCs in the region.

Research Tool

A self-constructed "MOOCs Satisfaction Assessment Scale (MSAS)" has been developed for this study to assess learners' satisfaction with MOOCs. The tool comprises 16 statements, categorized into three key dimensions: System Quality (4 items), Service Quality (6 items), and Information Quality (6 items). Each statement is designed to capture different aspects of the learners' experience with MOOCs, focusing on the technical, service-related, and informational factors that contribute to their satisfaction. System Quality measures the ease of use, reliability, and performance of the MOOC platform. Service Quality assesses the support provided to learners, including accessibility to help resources and responsiveness of the platform's customer service. Information Quality evaluates the relevance, accuracy, and comprehensiveness of the course content and materials provided. In this instrument, the 5-point Likert scale with responses of "Strongly Disagree (1) to Strongly Agree (5) to determine the extent to which the participants agree with the statements used. The instrument has gone through a stringent psychometric testing to establish reliability and validity. Cronbach's alpha coefficient ($\alpha = 0.94$) was used to determine the internal consistency, which demonstrated excellent reliability. The temporal stability of the instrument was strong, as test-retest reliability was confirmed with a correlation coefficient of 0.89. The content validity was secured via an extensive expertise review by the subject matter experts in the field of educational technology and online learning. The presence of these psychometric properties' partnership verifies that the instrument is valid in measuring these constructs that are related to satisfaction of learners with MOOCs and can be used to give credible research data. The obtained reliability coefficients are very high and above the suggested cut-offs (alpha > 0.70 in case of internal consistency and r > 0.70 in case of test-retest reliability), which allows stating that this tool is suitable to be used in this study.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received 04.10.2024 Revised 30.11.2024 Accepted 18.12.2024

Data Analysis

The research tool comprised 16 items scored on a 5-point Likert scale, with the responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), resulting in a theoretical range of scores from 16 to 80. Classification of postgraduate students' MOOC satisfaction into Low, Moderate, and High levels was done through a systematic norm-setting and scoring process. To derive empirically-based levels of satisfaction, the total scores were examined based on statistical measures of central tendency and dispersion. Satisfaction levels were operationally measured in terms of percentile-based cutoff scores that were obtained from the sample distribution: Low Satisfaction = scores in the lower 33rd percentile (scores ≤ 52), Moderate Satisfaction = scores in the 34th to 66th percentiles (53 to 64), and High Satisfaction = scores in the upper 33rd percentile (scores ≥65). This standardized technique provides for objective categorization of the satisfaction levels and allows for correct interpretation of the demographic distribution trends noticed in the study. Descriptive statistics and inferential statistical methods were used to examine the survey data and to look at the connections between important factors and levels of MOOC satisfaction.

Table 1. Demographic Breakdown of Satisfaction Levels with MOOCs Among Postgraduate Students according to experience, age, and gender.

Demographics	Category	Low Satisfaction	Moderate Satisfaction	High Satisfaction	Total	%
Gender	Male	20 (44.4%)	20 (44.4%)	5 (11.1%)	45	37.5%
	Female	19 (25.3%)	38 (50.7%)	18 (24.0%)	75	62.5%
Age Groups	20-23 years	13 (33.3%)	20 (51.3%)	6 (15.4%)	39	32.5%
	23-26 years	21 (34.4%)	28 (45.9%)	12 (19.7%)	61	50.8%
	26-29 years	5 (25.0%)	10 (50.0%)	5 (25.0%)	20	16.7%
Experience	> 6 months and less than 1 year	13 (44.8%)	10 (34.5%)	6 (20.7%)	29	24.2%
	>1 and less than 2 years	26 (28.6%)	48 (52.7%)	17 (18.7%)	91	75.8%
Total		39 (32.5%)	58 (48.3%)	23 (19.2%)	120	100%

The analysis, as given in Table 1 and figure 2, shows intriguing trends in MOOC satisfaction levels according to experience, age, and gender. When it came to gender, more female students (55%) than male students (45%) took part in the study. Only a tiny percentage of male students (11%) reported great satisfaction, with the majority of male students indicating low satisfaction (44.4%) and moderate satisfaction (44.4%). On the other hand, the general level of satisfaction among female students was greater, with 24% reporting high satisfaction and 50.7% indicating moderate satisfaction. When age categories were looked at, the age group of 23 to 26 represented the largest percentage of students, 50.8% of all responses. With 46% reporting moderate pleasure and 19.7% reporting great satisfaction, students in this age range likewise had the highest levels of satisfaction. Students between the ages of 20 and 23 demonstrated lower levels of great satisfaction (15.4%) and more moderate satisfaction (51.3%).

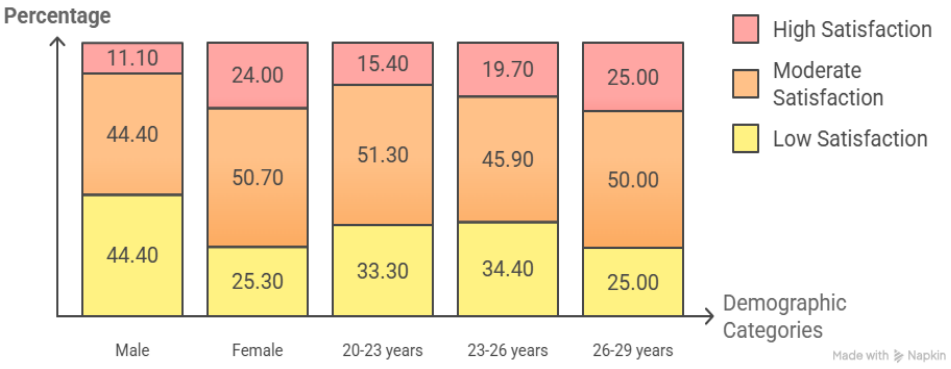

Figure 2: Satisfaction Levels by Demographic Factors

Although there were fewer students in the 26–29 age range, their satisfaction levels were more evenly distributed—50% of them indicated moderate to high satisfaction.75.8% of the sample had one to two years of MOOC experience, which was

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received 04.10.2024 Revised 30.11.2024 Accepted 18.12.2024

associated with higher overall satisfaction (18.7% with high satisfaction and 52.7% with moderate happiness). Only 16.2% of respondents with six months to a year's experience reported high satisfaction, indicating a negative correlation between increasing MOOC experience and higher satisfaction. Overall, the statistics show that postgraduate students' happiness levels with MOOCs are greatly influenced by criteria including gender, age, and experience, with female students, older students, and those with more experience generally reporting higher satisfaction.

Table 2. Demographic breakdown of Satisfaction Levels with MOOCs among Postgraduate Students

Satisfaction Level	N	Mean	S.D.	F-value	Sig.
Low Satisfaction	39	44.59	5.775	292.554	.001
Moderate Satisfaction	58	60.34	3.187		
High Satisfaction	23	69.61	3.130		

There is a substantial difference between the three satisfaction categories (Low, Moderate, and High) according to the descriptive statistics for postgraduate students' satisfaction levels with MOOCs. Students with poor contentment had a mean satisfaction score of 44.59, which is far lower than students with moderate satisfaction (mean = 60.34) and high satisfaction (mean = 69.61). The ANOVA test confirms this pattern, showing a statistically significant difference in satisfaction levels between the groups (F-value of 292.554, $p < .001$). The subset column in the table indicates that these three groups constitute separate subsets, which is further supported by the Tukey HSD post-hoc test. There is a considerable difference between students in the Moderate Satisfaction group and those in the Low Satisfaction group, and both groups differ significantly from the High Satisfaction group. The separate homogeneous subsets formed by each group attest to the distinct and non-overlapping nature of the satisfaction levels. In conclusion, the data indicate that postgraduate students' happiness levels with MOOCs differ greatly, with major differences between those who express low, moderate, and high satisfaction.

H_1: There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs based on gender.

Table 3: Showing the Group Statistics and Independent Samples t-Test for Satisfaction Scores by Gender

Gender	N	Mean	S.D.	t	df	Sig. (2-tailed)
Male	45	53.53	11.718	-2.979	118	0.004
Female	75	59.08	8.596			

The mean satisfaction score for male students (N = 45) is 53.53, with a standard deviation of 11.718, according to the group statistics for the satisfaction scores with MOOCs broken down by gender. In comparison, female students (N = 75) have a mean satisfaction score of 59.08, with a smaller standard deviation of 8.596. With a t(118) is-2.979 and a p-value of 0.004 ($p < .05$), the results of the independent samples t-test indicate a significant difference in the satisfaction levels of male and female students, indicating that female students are significantly more satisfied with MOOCs than male students. A gender difference in MOOC satisfaction is evident from this statistically significant outcome, with females generally reporting higher levels of satisfaction. Further evidence of a more consistent experience among female participants in comparison to male participants comes from the smaller SD (lower variability in satisfaction levels) among female participants.

H_2: There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs among age groups.

Table 4: Showing the Group Statistics and Independent Samples t-Test for Satisfaction Scores by Age

Age Group	N	Mean	S.D.	F	df	Sig. (2-tailed)
20-23 years	39	56.82	10.193	0.261	2, 117	0.771
23-26 years	61	56.62	10.752			
26-29 years	20	58.50	8.691			

The mean satisfaction score for students belonging to the age group of above 20 - less than 23 (N = 39) is 56.82, with a standard deviation of 10.193, according to the group statistics for the satisfaction scores with MOOCs broken down by age. The mean satisfaction score for students belonging to the age group of above 23 - less than 26 (N = 61) is 56.62, with a standard deviation of 10.752, according to the group statistics for the satisfaction scores with MOOCs broken down by age. In comparison, the mean satisfaction score for students belonging to the age group of above 26 - less than 29 female students (N = 20) has a mean satisfaction score of 58.50, with a smaller standard deviation of 8.691. With a t-value of 0.261 and a p-value of 0.771 ($p < .05$), the results of the independent samples t-test indicate a significant difference in the satisfaction levels of age groups of students, indicating that students belonging to the age group of above 26 - less than 29 are significantly more satisfied with MOOCs than the students belonging to the age group of above 20 - less than 23 and above 23 - less than 26. An age difference in MOOC satisfaction is evident from this statistically significant outcome, with students belonging to the age group of above 26 - less than 29 generally reporting higher levels of satisfaction. Further evidence of a more consistent experience among students belonging to the age group of above 26 - less than 29 in comparison students belonging to age groups of above 20 - less than 23 and above 23 - less than 26 comes from the smaller SD (lower variability in satisfaction levels) among students belonging to the age group of above 26 - less than 29.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received 04.10.2024 Revised 30.11.2024 Accepted 18.12.2024

H_3: There is no discernible variation in postgraduate students' satisfaction ratings with MOOCs among their MOOC usage experience.

Table 5: Showing the Group Statistics and Independent Samples t-Test for Satisfaction Scores by Experience

Experience Duration	N	Mean	S.D.	t	df	Sig. (2-tailed)
6 months - 1 year	29	55.03	11.309	-1.194	118	0.235
1 year - 2 years	91	57.63	9.801			

Based on experience, as shown in Table 5, the group data for MOOC satisfaction scores reveal that students (N = 29) with six months to a year of experience have a mean satisfaction score of 55.03, with a standard deviation of 11.309. In contrast, students (N = 91) with a year or two of experience have a mean satisfaction score that is higher at 57.63 and has a smaller standard deviation of 9.801. A t-value of -1.194 and a p-value of .235 (p >.05) from the independent samples t-test indicate that the difference in satisfaction levels between the two experience groups is not statistically significant. This implies that the degree of experience students have has no bearing on how satisfied they are with MOOCs. The mean scores do change slightly, with students with greater experience reporting slightly higher satisfaction, but not significantly enough to be deemed statistically significant.

Key Findings and Discussion of the Study

The study findings provide key revelations regarding the determinants of postgraduate students' MOOC satisfaction in Northeast India, where gender proves to be the most powerful among the demographic variables considered.

- **Gender Gap:** Female students show significantly higher satisfaction rates (24.0% high satisfaction vs 11.1% for males)
- **Age Consistency:** Satisfaction levels remain relatively stable across age groups, with a slight increase in older students
- **Experience Paradox:** Less experienced users (6 months to less than 1 year) show slightly higher satisfaction in the high category (20.7% vs 18.7%)
- **Overall Pattern:** Moderate satisfaction dominates across all demographics (45-53%), suggesting room for improvement

General Satisfaction with MOOCs

There are differing degrees of satisfaction among postgraduate students in Northeast India with MOOCs, according to an analysis of their overall satisfaction. According to the data, the majority of students express moderate levels of satisfaction, with a smaller percentage indicating high levels. This shows that even while most students find MOOCs to be adequate, there is still room for development. These results are consistent with earlier research (Khurana et al., 2019; Lu et al., 2019) that emphasizes the importance of perceived usefulness, system quality, and course content in influencing students' happiness with MOOCs. It is clear that postgraduate students in Northeast India value MOOCs for their flexibility and accessibility, much like students in other places do. However, there is still a need to improve the learning process, particularly in terms of participation and interaction (Shrader et al., 2016).

Impact of Gender on Satisfaction with MOOCs

Based on gender, there is a statistically significant difference in MOOC satisfaction, according to the data analysis. When it came to satisfaction, female students gave a higher rating than male pupils. This finding runs counter to H_1, or the null hypothesis, which predicted that there would be no appreciable gender-based variance in pleasure. Previous study suggests that female students' higher satisfaction ratings could be explained by their stronger participation with and perception of the value of MOOCs (Khan & Islam, 2022; Nong et al., 2022). Variations in preferences for online learning settings may account for gender disparities in satisfaction; females may place greater emphasis on the flexibility and variety of learning styles that MOOCs offer.

Impact of Age on Satisfaction with MOOCs

Based on age demographics, the satisfaction analysis shows comparatively consistent satisfaction ratings across age groups with no notable variances. This is consistent with H_2, which proposed that there would be no appreciable difference in pleasure according to age. These results imply that age groups have little bearing on postgraduate students' satisfaction with MOOCs. Age has been found to have no bearing on the general satisfaction with MOOCs in other studies that have produced similar results (Bozkurt & Aydin, 2015). The consistent level of pleasure seen across age groups indicates that MOOCs provide a learning environment that is advantageous at all levels of postgraduate education.

Impact of MOOC Usage Experience on Satisfaction with MOOCs

There is no statistically significant difference between students with varying degrees of experience, according to the examination of satisfaction levels based on the students' MOOC usage experience. The hypothesis that there would be no appreciable variance in satisfaction based on MOOC usage experience is supported by this finding (H_3). While more experienced students do report slightly better satisfaction levels, the difference is not statistically significant. According to these results, students' total satisfaction may be more heavily influenced by other characteristics, such as engagement,

system features, and course quality, even while familiarity with MOOCs can only marginally increase satisfaction (Anggraini et al., 2018; Gutiérrez-Santiuste et al., 2015).

Implications and Theoretical Considerations

These results provide significant theoretical and practical implications toward the comprehension of the MOOC uptake and satisfaction in the developing educational setting. This substantial gender effect shows that MOOC designers and learning institutions should take into account gender-related considerations to design and realize effective online learning strategies. The knowledge of the reasons behind the higher satisfaction reporting in female students might guide the creation of more welcoming and effective MOOC designs that would increase satisfaction in all demographic cohorts. There were no significant effects of age or experience, which suggests we believe that postgraduate students in Northeast India may be a rather homogenous group regarding the factors determining their satisfaction with MOOCs, despite the demographic differences. This observation argues the possibility of standardized MOOC applications to the members of this age group and various levels of experience.

Limitations of the study

This study's main drawback is that it only examined one central university located in Assam, which could restrict how broadly the results can be applied to other establishments or areas. The geographical focus is limited to Assam, and the particular circumstances of this location might not accurately represent the experiences of pupils in other states or regions with disparate educational systems. Furthermore, because the study only focused on a single central university, it might not have taken into account the viewpoints of students attending colleges, state universities, or private universities, all of which have their own unique administrative and instructional structures. When interpreting the findings and their wider relevance, these considerations should be taken into account.

Conclusion

This analysis is beneficial in understanding what affects the postgraduate students in terms of satisfaction of MOOCs in universities in Northeast India. The results show that most postgraduate students show moderate satisfaction ratings with MOOCs, but there are vast gender-based differences, with female students expressing much higher levels of satisfaction in comparison with their male peers. Interestingly, both age and previous MOOC experience are insignificant factors of satisfaction, which could indicate that these two demographical factors are not as important determinants of student experiences with online learning environments in this setting. These findings bear significant implications for educational institutions and MOOC providers aiming at promoting student engagement and satisfaction within the Northeast Indian higher education context. The research suggests that university and online learning platform designers and developers to deploy gender-sensitive design and support systems to resolve satisfaction disparity between male and female students, even though they should maintain the focus on the enhancement of the overall course content, user participation, and system performance. In addition, the study indicates that the MOOCs initiative can be successfully applied to the postgraduate population of various ages and levels of experience with little or no distinction in delivery. With the Northeast India moving towards the adoption of digital education technologies, the significance of these satisfaction patterns is apparent to create postgraduate digital learning ecosystems that are inclusive, effective, and sustainable to meet the needs of Northeast India postgraduate students in the digital learning ecosystem. Further studies should consider the cause of the observed gender-satisfaction discrepancies, as well as examine other potential factors, including the subject discipline, institutional support, and technological infrastructure**,** which can affect the MOOC satisfaction in this peculiar educational setting.

References

1. Anggraini, A., Tanuwijaya, C.N., Oktavia, T., Meyliana, M., Prabowo, H., & Supangkat, S.H. (2018). Analyzing MOOC Features for Enhancing Students Learning Satisfaction. *Journal of Telecommunication, Electronic and Computer Engineering, 10*, 67-71. https://jtec.utem.edu.my/jtec/article/view/3578
2. Bhatia, A., Asthana, A., Bhattacharya, P., Tanwar, S., Singh, A., Sharma, G. (2023). A Sentiment Analysis-Based Recommender Framework for Massive Open Online Courses Toward Education 4.0. *Lecture Notes in Networks and Systems, 421, Springer, Singapore.* https://doi.org/10.1007/978-981-19-1142-2_64
3. Bordoloi, R., Das, P. and Das, K. (2020). Lifelong learning opportunities through MOOCs in India. *Asian Association of Open Universities Journal*, *15*(1), 83-95. https://eric.ed.gov/?id=EJ1336687
4. Bozkurt, A. & Aydin, C. (2015). Satisfaction, preferences and problems of a MOOC participants. *Conference: The Association for Educational Communications and Technology (AECT) International Convention.*
5. Deshpande, A., & Chukhlomin, V. (2017). What Makes a Good MOOC: A Field Study of Factors Impacting Student Motivation to Learn. *American Journal of Distance Education, 31*(4), 275-293. https://doi.org/10.1080/08923647.2017.1377513
6. Du, B. (2023). Research on the factors influencing the learner satisfaction of MOOCs. *Education and Information Technologie*s, *28*, 1935–1955. https://eric.ed.gov/?id=EJ1368087

7. Gameel, B. G. (2017). Learner Satisfaction with Massive Open Online Courses. *American Journal of Distance Education, 31*(2), 98-111. https://doi.org/10.1080/08923647.2017.1300462
8. Gulati, S., Sharma, R., Kaur, A. & Chakravarty, R. (2021). Understanding User Perceptive and Satisfaction Level towards MOOCs: A Comparative analysis of SWAYAM and Coursera. *Library Philosophy and Practice (e-journal). 6551*. https://digitalcommons.unl.edu/libphilprac/6551
9. Gutierrez-Santiuste, E., Gámiz-Saanchez, V. & Gutieerrez-Perez, J. (2015). MOOC & B-learning: Students' Barriers and Satisfaction in Formal and Non-formal Learning Environments. *Journal of Interactive Online Learning, 13* (3), 88-111. www.ncolr.org/jiol
10. Hew, K. F., Hu, X., Qiao, C., & Tang, Y. (2020). What predicts student satisfaction with MOOCs: A gradient boosting trees supervised machine learning and sentiment analysis approach. *Computers & Education, 145,* 103724. https://doi.org/10.1016/j.compedu.2019.10372
11. Jauhari, K. (2020). A study of Factors Effecting Learner Satisfaction in Massive Open Online Courses (MOOCS) in the Indian Context. *International Journal of Management (IJM), 11*(10), 749-759. DOI: 10.34218/IJM.11.10.2020.069 http://iaeme.com/Home/issue/IJM?Volume=11&Issue=10
12. Joo, Y. J., So, H. J., & Kim, N. H. (2018). Examination of relationships among students' self-determination, technology acceptance, satisfaction, and continuance intention to use K-MOOCs. *Computers & Education, 122,* 260-272. https://doi.org/10.1016/j.compedu.2018.01.003
13. Khalil, H. & Ebner, M. (2015). How Satisfied Are You With Your MOOC?"—A Research Study About Interaction in Huge Online Courses. *Journalism and Mass Communication, 5*(12), 629-639. doi: 10.17265/2160-6579/2015.12.003 https://graz.elsevierpure.com/en/publications/how-satisfied-are-you-with-your-mooc-a-research-study-on-interact
14. Khan, M. A. & Islam, T. (2022). A study on the determinants of learner satisfaction in moocs. *Cardiometry, 23,* 538-544. DOI: 10.18137/cardiometry.2022.23.538544. https://www.cardiometry.net/issues/no23-august-2022/study-determinants-learner
15. Khurana, R., Routray, S., Payal, R. and Gupta, R. (2019) Investigation of the Impact of Quality, Openness and Reputation of Massive Open Online Courses MOOCs on an Individual's Satisfaction and Performance. Theoretical Economics Letters, 9, 1167-1182. https://doi.org/10.4236/tel.2019.94075
16. Kumar, P. & Kumar, N. (2020). A study of learner's satisfaction from MOOCs through a mediation model. *Procedia Computer Science, 173,* 354–363. http://creativecommons.org/licenses/by-nc-nd/4.0/
17. Lopez, I. P., Castillo, E, H., Leiva, F. M. & Cabanillas, F. J. L. (2021). Perceived user satisfaction and intention to use massive open online courses (MOOCs). *Journal of Computing in Higher Education, 33,* 85–120. https://doi.org/10.1007/s12528-020-09257-9
18. Lu, Y., Wang, B. & Lu, Y. (2019). Understanding Key Drivers of MOOC Satisfaction and Continuance Intention to Use. *Journal of Electronic Commerce Research 20* (2), 105-117.
19. Matari, A. M. (2020). Students' Performance, Satisfaction and Retention in a Hybrid and Traditional Face-To-Face Science Course, Principles of Biology I, in a Community College. *Seton Hall University Dissertations and Theses (ETDs). 2740*. https://scholarship.shu.edu/dissertations/2740
20. Mulik, S., Srivastava, M. & Yajnik, N. (2020). Flow Experience and MOOC Acceptance: Mediating Role of MOOC Satisfaction. *NMIMS Management Review, 38* (1), 0971-1023.
21. Nong, Y., Buavaraporna, N. & Punnakitikashem, P. (2022). Exploring the factors influencing users' satisfaction and continuance intention of MOOCs in China. *Kasetsart Journal of Social Sciences, 43,* 403–408. http://creativecommons.org/licenses/by-nc-nd/4.0/
22. Pengnate, W. (2019). Undergraduate Students' Satisfaction with MOOCs: A Case of Foundation English Course. *10th National and International Conference on Humanities and Social Sciences,* 28-29. Prince of Songkla University, Phuket Campus, Phuket, Thailand. https://tni.ac.th/gc/wp-content/uploads/2020/08/wipanee-pengnate.pdf
23. Rabia. V. (2020). Teacher candidates' satisfaction with massive open online courses in Turkey. *Cypriot Journal of Educational Science, 15*(3), 479-491. https://eric.ed.gov/?id=EJ1262156
24. Rabin, E., Henderikx, M., Kalman, Y. M. & Kalz, M. (2020). What are the barriers to learners' satisfaction in MOOCs and what predicts them? The role of age, intention, self-regulation, self-efficacy and motivation. *Australasian Journal of Educational Technology, 36*(3), 119-131. https://ajet.org.au/index.php/AJET/article/view/5919
25. Shah, D., & Cheng, R. (2019). Trend Report: MOOCs for Credit. Class Central. https://www.classcentral.com/report/moocs-for-credit/
26. Shrader, S., Wu, M., Owens, D. & Ana, K. S. (2016). Massive Open Online Courses (MOOCs): Participant Activity, Demographics, and Satisfaction. *Online Learning, 20*(2). https://files.eric.ed.gov/fulltext/EJ1105967.pdf
27. Wang, Q., Khan, M.S. & Khan, M. K. (2021). Predicting user perceived satisfaction and reuse intentions toward Massive Open Online Courses (MOOCs) in the Covid-19 pandemic: An application of the UTAUT model and quality factors. *International Journal of Research in Business and Social Science, 10*(2), 01-11. https://www.ssbfnet.com/ojs/index.php/ijrbs

28. Yue, W. S. (2022). Exploring MOOC as a New Instructional Technology Tool: the Relationship of Students' Challenges, Perceived Benefits and Satisfaction. *Journal of Advanced Research in Applied Sciences and Engineering Technology, 28*(1), 126-138. https://semarakilmu.com.my/journals/index.php/applied_sciences_eng_tech/article/view/937