Journal of Infrastructure, Policy and Development 2024, 8(12), 7078.
https://doi.org/10.24294/jipd.v8i12.7078

Article

Enhancing policy on higher education accessibility in Myanmar: Sustainable impact of technology effectiveness, opportunities, and social development

Naing Soe Aye*, Manual Selvaraj Bexci, Sandeep Poddar, Amiya Bhaumik

Lincoln University College, Petaling Jaya 47301, Selangor D. E., Malaysia
*** Corresponding author:** Naing Soe Aye, naingsoeaye.acc@gmail.com

CITATION

Aye NS, Bexci MS, Poddar S, Bhaumik A. (2024). Enhancing policy on higher education accessibility in Myanmar: Sustainable impact of technology effectiveness, opportunities, and social development. Journal of Infrastructure, Policy and Development. 8(12): 7078. https://doi.org/10.24294/jipd.v8i12.7078

ARTICLE INFO

Received: 12 June 2024
Accepted: 8 July 2024
Available online: 31 October 2024

Abstract: This study explores the impact of technology effectiveness, social development, and opportunities on higher education accessibility in Myanmar, focusing on private higher education institutions. Utilizing a sample of 199 respondents, with an average age of X (SD = Y), the research employs standardized questionnaires and descriptive statistics, correlation analysis, and multiple regression analysis to examine the relationships between these variables. The findings indicate that technology effectiveness significantly enhances higher education accessibility, with strong positive correlations ($r = 0.752$, $p < 0.001$) and substantial impacts on educational outcomes ($\beta = 0.334$, $p = 0.001$). Social development also plays a crucial role, demonstrating that supportive social norms and community engagement significantly improve accessibility ($\beta = 0.405$, $p < 0.001$). Opportunities provided by technological advancements further contribute to enhanced accessibility ($\beta = 0.356$, $p < 0.001$), although socio-political and economic challenges pose significant barriers. The study highlights the interconnectedness of these factors and their collective influence on educational accessibility. Practical implications include the need for strategic investments in technological infrastructure, promotion of supportive social environments, and innovative solutions to leverage opportunities. Future research directions suggest longitudinal studies, broader demographic scopes, and in-depth analyses of specific technological and infrastructural challenges. By addressing these areas, stakeholders can develop effective strategies to improve higher education accessibility, ultimately contributing to the socio-economic development of Myanmar.

Keywords: technology; social developments; higher education; private education; Myanmar; accessibility; educational quality

1. Introduction

Diversity, innovation, and inclusivity characterize higher education worldwide. Institutions from US community colleges to European universities offer online education, with the European Higher Education Area (EHEA) promoting cooperation, mobility, and technological integration. However, challenges such as educational fairness, AI, and online program management persist. In Southeast Asia, higher education has grown and internationalized rapidly over the past decade, supported by initiatives from the ASEAN Secretariat and ASEAN University Network. The COVID-19 pandemic has significantly impacted private higher education institutions, leading to enrollment losses and financial uncertainty due to a lack of government subsidies. In Myanmar, the decade before the pandemic saw an expansion in post-primary education. However, the recent military takeover and pandemic have slowed progress, particularly in non-public schools and higher education. Political instability and technological integration issues have also affected the National Education Strategic Plan (NESP)'s governance and quality improvements. Academic challenges

in Rakhine State include school closures, political instability, and economic uncertainty. Despite these constraints, FDI projects like the Belt and Road Initiative (BRI) and Kyaukphyu port offer job prospects. However, the shortage of experienced teachers, technology support, and currency concerns continue to hamper educational technology integration and quality. This study examines the changing higher education landscape in Myanmar, focusing on the impact of technology, social developments, and opportunities on educational outcomes and accessibility.

Research Questions and Objectives

1) How effective is the integration of technology in enhancing educational outcomes in higher education systems, particularly in Myanmar?
2) What role do social development play in shaping educational practices and accessibility in different regions, with a focus on Myanmar and Rakhine State?
3) What are the key opportunities and challenges in improving higher education accessibility in Myanmar, considering the socio-political and economic context?

Research Problem

Higher education in Myanmar, especially in Rakhine State, confronts many obstacles to growth and accessibility. Despite decade-long progress in education, political instability and the COVID-19 pandemic have devastated the sector. Public school closures and economic uncertainty have caused a sharp drop in student enrollment, notably in non-public and higher education institutions. Due to poor infrastructure, internet access, and a teacher shortage, Myanmar's higher education system fails to integrate technology. Socio-political factors like the military control have hindered changes and limited education sector funding, increasing technological barriers. Sociocultural developments about education hinder higher education's visibility and accessibility. Rakhine State struggles with instability and little private higher education. The economic priority of survival above education has degraded academic standards and accessibility. It is vital to explore how technology improves educational outcomes, how social developments affect educational practices, and how Myanmar might make higher education more accessible. Understanding these elements can help you leverage technology and supporting social circumstances to democratize, develop, and give equal access to education for all Myanmar citizens.

2. Literature review

Technology Effectiveness

Research shows technology helps teaching across contexts. Cheung and Slavin (2012) discovered in a meta-analysis that educational technology increases reading. Beer and Mulder (2020) applied this to vocational education, stressing how technological advances affect ongoing training. Fan and Ye (2022) discovered that technology-based project design courses increased learning, and Bachmann et al. (2023) found that virtual reality training improves public speaking. Myanmar's education system has particular hurdles in integrating technology, despite global evidence. Hendayani and Febrianta (2020) show that technology can increase supply chain efficiency in family businesses, suggesting similar benefits in education. In Myanmar, Bhatta and Katwal (2022) found considerable regional differences in technology access and use. Global studies show technology's efficacy in teaching, but

Myanmar, especially higher education and isolated locations like Rakhine State, lacks study.

Social Development

Social development strongly influences education. Lapinski and Rimal (2005) shed light on how social developments influence behavior, which is a crucial component of social development. Legros and Cislaghi (2020) map social developments literature and their effects on education, highlighting the broader context of social development. Rui and Liu (2021) study how social media affects workout intentions, which may alter educational behavior, indicating the interplay between social development and educational practices. Cultural, economic, and political influences shape Myanmar's education practices, which are integral aspects of social development. Sparkman and Weber (2023)'s development networks and behavior debate applies to Myanmar's diverse culture, emphasizing the role of social development in shaping educational outcomes. Gelfand et al. (2023) discuss development dynamics and school improvement in Myanmar from an interdisciplinary approach, underscoring the importance of social development. The literature often overlooks how social development affects Myanmar's educational quality and accessibility.

Opportunities

Globally, higher education accessibility is important. Gustafsson-Wright et al. (2022) emphasize worldwide education changes that require innovative, accessible solutions. Raghupathi and Raghupathi (2020) demonstrate that accessible education improves health. Political instability and economic issues make higher education in Myanmar difficult. Barbon et al. (2021) study Myanmar community-based adaption and how localized solutions may increase accessibility. Technological and economic uncertainty are important issues.

Higher education accessibility

Various aspects contribute to higher education accessibility, spanning from understanding one's field of study to exploring alternative pathways like online programs or vocational training, as outlined by Weeden (2023). McAlvage and Rice (2018) underscore the significance of access in online learning, while McGinty (2016) delves into faculty perceptions, and Lowenthal and Lomellini (2023) focus on educational technologists' knowledge in accessible online learning. Mateus and Acosta (2022) discuss institutional reputation's influence, and Klein (2010) spotlight field-specific awareness. Sun (2023) emphasizes management strategies, and Lewthwaite et al. (2023) address workplace approaches to teaching digital accessibility. Popkova and Sergi (2023) delve into the economic aspect, Nadine et al. (2023) explore accessibility maturity models, and Liu and Gao (2023) analyze socio-economic influences, particularly in China. Allifya et al. (2022) propose an accessibility portal, while Trevisan and De Rossi (2023) and Fennelly and LaPrairie (2023) investigate quality and accessibility in blended and online learning, respectively. Bugakova and Prakhov (2022) scrutinize university admission systems' characteristics, augmenting the understanding of higher education accessibility.

3. Method

Study Design: This study employs a structured research methodology to investigate the impact of technology effectiveness, opportunities, and social development on higher education accessibility in Myanmar.

Subject: The sample consists of 199 respondents from private higher education institutions in Myanmar, including students, faculty, and administrators. Demographic data such as age, gender, and educational background will be collected. Participants are volunteers who meet the inclusion criteria of being affiliated with private higher education institutions.

To ensure the sample size is sufficient for detecting statistically significant effects, a power analysis was conducted using standard statistical methods. Based on a medium effect size (0.3), an alpha level of 0.05, and a desired power level of 0.80 (Cohen, 1988), the required sample sizes for various statistical tests were calculated. The analysis determined that approximately 175 participants are needed for a t-test, 89 participants for an ANOVA, and 174 participants for a correlation analysis. Given these results, the chosen sample size of 199 participants is adequate to ensure robust and reliable findings across all planned statistical analyses, thereby providing a solid foundation for examining the impact of technology effectiveness, opportunities, and social development on higher education accessibility in Myanmar.

Procedures: Data will be collected through a comprehensive questionnaire distributed to participants. The questionnaire will target various aspects of higher education accessibility, technology effectiveness, opportunities, and social development.

Instruments or Questionnaires: The questionnaire includes sections designed to measure technology effectiveness, opportunities, and social development. Each section uses specific scales to evaluate the respective variables. For example, the technology effectiveness section includes items on the availability and use of technology in educational settings.

Statistical Analyses: Descriptive statistics, including means, medians, standard deviations, and frequency distributions, will be used to summarize key data features and provide a clear understanding of sample characteristics and response patterns. Correlation analysis using Pearson correlation coefficients will assess the relationships between the independent variables (Technology Effectiveness, Opportunities, and Social Development) and the dependent variable (Higher Education Accessibility). Multiple regression analysis will further quantify the impact of each independent variable on higher education accessibility. Statistical software such as SPSS will be used for precise calculations and analysis, ensuring robust and reliable results.

4. Results and discussion

4.1. Demographic profile of the participant

According to the **Table 1**, the data from the survey the bulk of participants in the study are men (31.7%) and women (68.3%). The biggest age groups are from 21 to 25 (24.1%) and from 36 to 40 (25.1%). A further 18.6% of participants were between the ages of 26 and 30, 17.6% between the ages of 31 and 35, and 3.5% between the ages

of 18 and 20. The majority have a Bachelor's Degree (57.8%), followed by a Master's (33.2%), a Diploma (6.0%), High School (2.5%), and Ph.D. (0.5%). Workers make up 49.7% of the participants, followed by students (12.6%), self-employed (17.1%), and civil servants (20.6%). This demographic spread indicates a broad and varied sample, encompassing different genders, age groups, education levels, and professional backgrounds, providing a comprehensive basis for analyzing the integration of technology in higher education, its impact on educational outcomes, and the associated opportunities and challenges in Myanmar.

Table 1. Demographic profile of the participant.

Participant		**Frequency**	**Percent**
1. Gender	Female	136	68.3
	Male	63	31.7
2. Age	18–20 years	7	3.5
	21–25 years	48	24.1
	26–30 years	37	18.6
	31–35 years	35	17.6
	36–40 years	50	25.1
	41 years and above	22	11.1
3. Current Education	Bachelor Degree	115	57.8
	Diploma	12	6.0
	High School	5	2.5
	Master Degree	66	33.2
	Ph.D.	1	0.5
4. Occupation	Civil Servant	41	20.6
	Employee	99	49.7
	Self-Employed	34	17.1
	Student	25	12.6
	Total	199	100.0

4.2. The descriptive statistics for the variables

The descriptive statistics for this study's variables are discussed in **Table 2** reveal key insights into respondents' perceptions of higher education in Myanmar. Technology Effectiveness has a mean score of 3.5780 with a standard deviation of 0.71603, indicating a moderately high and consistent perception of technology's positive impact on education. Social Development shows a mean of 3.4294 and a standard deviation of 0.72625, suggesting moderate agreement on its beneficial role, though with some variability in views. Opportunities have a mean of 3.2086 and a standard deviation of 0.71972, reflecting moderate perceptions with varied opinions on the extent and quality of opportunities provided by technology. Higher Education Accessibility has a mean score of 3.0152 and a higher standard deviation of 0.88859, indicating a moderate perception of accessibility with significant variability, pointing to diverse experiences and perceptions among respondents. Overall, while respondents generally view technology and social development positively in enhancing higher

education, there are more mixed perceptions regarding the opportunities available and the overall accessibility of higher education, highlighting areas for potential improvement.

Table 2. Overall descriptive of all variables.

Overall descriptive of all variables	Mean	Std. Deviation
Technology Effectiveness	3.5780	0.71603
Social Development	3.4294	0.72625
Opportunities	3.2086	0.71972
Higher education accessibility	3.0152	0.88859

4.3. Correlation

The correlation analysis reveals significant relationships among the key variables in the study. Technology Effectiveness shows a strong positive correlation with Social Development (r = 0.815**), Opportunities (r = 0.739**), and Higher Education Accessibility (r = 0.752**), indicating that improvements in technology effectiveness are closely associated with enhancements in social development, opportunities, and accessibility in higher education. Similarly, Social Development is strongly correlated with Opportunities (r = 0.731**) and Higher Education Accessibility (r = 0.761**), suggesting that as social development improves, so do the opportunities and accessibility of higher education. Opportunities also have a strong positive correlation with Higher Education Accessibility (r = 0.729**), highlighting that increased opportunities through technological advancements are linked to better accessibility in higher education (**Table 3**). These strong correlations underscore the interconnectedness of these variables, emphasizing that efforts to enhance technology effectiveness and social development are likely to have a significant and positive impact on creating more opportunities and improving the accessibility of higher education in Myanmar.

Table 3. Correlation Matrix

Correlations				
	Technology Effectiveness	**Social Deveopment**	**Opportunities**	**Higher education accessibility**
Technology Effectiveness	1	0.815**	0.739**	0.752**
Social Deveopment	0.815**	1	0.731**	0.761**
Opportunities	0.739**	0.731**	1	0.729**
Higher education accessibility	0.752**	0.761**	0.729**	1

4.4. Regression analysis

The model summary indicates that the regression model, which includes Technology Effectiveness, Social Development, and Opportunities as predictors, explains a significant portion of the variance in Higher Education Accessibility. The R value of 0.815 signifies a strong correlation between the observed and predicted values of higher education accessibility. The R Square value of 0.665 indicates that approximately 66.5% of the variability in Higher Education Accessibility can be

explained by the combined effect of Technology Effectiveness, Social Development, and Opportunities. The Adjusted R Square of 0.659, which accounts for the number of predictors in the model, still reflects a substantial explanatory power, confirming the robustness of the model. The standard error of the estimate, at 0.51855, suggests that the model predicts higher education accessibility with a moderate level of accuracy (**Table 4**). Overall, these results demonstrate that the predictors collectively provide a strong and reliable explanation for variations in higher education accessibility in Myanmar.

Table 4. Model summary for regression analysis of higher education accessibility in Myanmar.

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0.815[a]	0.665	0.659	0.51855

a. Predictors: (Constant), Opportunities, Social Deveopment, Technology Effectiveness.

The ANOVA results for the regression model displayed in **Table 5** indicate that the model is statistically significant in explaining the variability in Higher Education Accessibility. The regression sum of squares is 103.904, with 3 degrees of freedom, and the mean square for the regression is 34.635. The residual sum of squares is 52.433 with 195 degrees of freedom, leading to a mean square of 0.269 for the residual. The F-value is 128.806, and the significance level (Sig.) is 0.000, which is well below the conventional threshold of 0.05. This high F-value and the statistically significant p-value demonstrate that the combined effect of Technology Effectiveness, Social Development, and Opportunities significantly predicts Higher Education Accessibility. Therefore, we can conclude that the independent variables collectively have a substantial impact on higher education accessibility in Myanmar.

Table 5. ANOVA results for regression model predicting higher education accessibility in Myanmar.

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	103.904	3	34.635	128.806	.000[b]
	Residual	52.433	195	.269		
	Total	156.338	198			

a. Dependent Variable: HEA. b. Predictors: (Constant), O, SN, TE.

The coefficients **Table 6**, for the regression model provides detailed insights into the contributions of each predictor variable to Higher Education Accessibility. The constant (intercept) is 0.711, indicating the expected value of higher education accessibility when all predictors are zero. The unstandardized coefficients show that Technology Effectiveness (TE) has a coefficient of 0.334 with a standard error of 0.095, Social Development (SN) has a coefficient of 0.405 with a standard error of 0.093, and Opportunities (O) has a coefficient of 0.356 with a standard error of 0.080. The standardized coefficients (Beta) reveal that Social Development (Beta = 0.331) has the strongest influence on higher education accessibility, followed by

Opportunities (Beta = 0.288) and Technology Effectiveness (Beta = 0.269). The *t*-values and significance levels (TE: $t = 3.503$, $p = 0.001$; SN: $t = 4.366$, $p = 0.000$; O: $t = 4.421$, $p = 0.000$) indicate that all predictors significantly contribute to the model. These results suggest that improvements in social development, technology effectiveness, and opportunities are all significant and positively impact the accessibility of higher education in Myanmar, with social development being the most influential factor.

Table 6. Regression coefficients for predictors of higher education accessibility in Myanmar.

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	0.711	0.195		–3.654	0.000
	TE	0.334	0.095	0.269	3.503	0.001
	SN	0.405	0.093	0.331	4.366	0.000
	O	0.356	0.080	0.288	4.421	0.000

a. Dependent Variable: HEA.

4.5. Research questions and research answers

4.5.1. How effective is the integration of technology in enhancing educational outcomes in higher education systems, particularly in Myanmar

The integration of technology in higher education in Myanmar is moderately effective, with a mean score of 3.5780 and a standard deviation of 0.71603. The correlation analysis shows a strong positive relationship between Technology Effectiveness and Higher Education Accessibility ($r = 0.752$**). The regression analysis further confirms that Technology Effectiveness significantly impacts Higher Education Accessibility, with an unstandardized coefficient (B) of 0.334 and a significance level of 0.001. These results indicate that improvements in technology effectiveness are closely associated with enhancements in educational accessibility and outcomes.

4.5.2. What role do social development play in shaping educational practices and accessibility in different regions, with a focus on Myanmar and Rakhine State

Social development plays a significant role in shaping educational practices and accessibility. The mean score for Social Development is 3.4294, with a standard deviation of 0.72625. The correlation analysis indicates a strong positive relationship between Social Development and Higher Education Accessibility ($r = 0.761$**). Regression analysis shows that Social Development has a substantial positive impact on Higher Education Accessibility, with an unstandardized coefficient (B) of 0.405 and a significance level of 0.000. These findings suggest that supportive social norms significantly enhance educational practices and accessibility in Myanmar.

4.5.3. What are the key opportunities and challenges in improving higher education accessibility in Myanmar considering the socio-political and economic context

Opportunities provided by technology also play a vital role in enhancing educational accessibility, with a mean score of 3.2086 and a standard deviation of 0.71972. The correlation analysis shows a strong positive relationship between Opportunities and Higher Education Accessibility (r = 0.729**). The regression analysis indicates that Opportunities significantly impact Higher Education Accessibility, with an unstandardized coefficient (B) of 0.356 and a significance level of 0.000. However, challenges such as socio-political instability, economic constraints, and infrastructural issues pose significant barriers. The model summary shows that these factors combined explain 66.5% of the variance in Higher Education Accessibility (R Square = 0.665), highlighting both the potential and the obstacles in this context.

5. Discussion

This study explores the significant factors influencing higher education accessibility in Myanmar, focusing on technology effectiveness, social development, and opportunities. The findings highlight the crucial roles these variables play in shaping educational outcomes and accessibility in the region.

Technology Effectiveness: The integration of technology in higher education in Myanmar shows a moderately high level of effectiveness, as indicated by a mean score of 3.5780. The strong positive correlation between Technology Effectiveness and Higher Education Accessibility (r = 0.752**) underscores the importance of technological advancements in enhancing educational accessibility. The regression analysis further confirms this relationship, with Technology Effectiveness having a significant positive impact on accessibility (B = 0.334, p = 0.001). These results align with global studies that demonstrate the benefits of educational technology in improving learning outcomes (Cheung and Slavin, 2011; Fan and Ye, 2022).

However, Myanmar faces unique challenges such as inadequate infrastructure, limited internet access, and political instability, which hinder the full potential of technology integration. Addressing these barriers is essential for maximizing the benefits of technology in higher education. Similar issues have been observed in other developing countries, where infrastructural limitations and political factors often impede educational progress (Hendayani and Febrianta, 2020).

Social Development: Social development significantly influences educational practices and accessibility in Myanmar. The mean score for Social Development is 3.4294, reflecting moderate agreement on its beneficial role. The strong correlation between Social Development and Higher Education Accessibility (r = 0.761**) and its significant impact in the regression model (B = 0.405, p = 0.000) highlight the importance of a supportive social environment. Social norms can either facilitate or impede educational accessibility depending on their nature (Lapinski and Rimal, 2005; Legros and Cislaghi, 2020).

In Myanmar, cultural, economic, and political influences shape educational practices, emphasizing the need for strategic initiatives to foster positive social norms

that support education. This is consistent with findings from other regions, where social development and community support play crucial roles in educational accessibility (Sparkman and Weber, 2023).

Opportunities: Opportunities provided by technological advancements are also critical for enhancing higher education accessibility. The mean score for Opportunities is 3.2086, indicating moderate perceptions of the available opportunities. The strong positive correlation with Higher Education Accessibility ($r = 0.729^{**}$) and significant regression coefficient (B = 0.356, $p = 0.000$) suggest that increased opportunities through technology can significantly improve accessibility.

However, the socio-political and economic context in Myanmar presents significant challenges. Political instability, economic constraints, and infrastructural deficiencies limit the extent to which these opportunities can be leveraged. Addressing these challenges requires comprehensive policies and investments in technology and infrastructure. Similar constraints have been reported in studies focusing on other countries facing political and economic difficulties (Barbon et al., 2021).

Overall Analysis: The overall regression model, which includes Technology Effectiveness, Social Development, and Opportunities as predictors, explains a substantial portion of the variance in Higher Education Accessibility (R Square = 0.665). This indicates that these factors collectively provide a robust explanation for the variations in educational accessibility. The ANOVA results further confirm the model's statistical significance (F = 128.806, $p = 0.000$).

The study provides valuable insights into the multifaceted role of technology, social development, and opportunities in enhancing higher education accessibility in Myanmar. While technology effectiveness and social development show significant positive impacts, addressing the socio-political and economic challenges remains crucial for fully realizing the potential of these factors. Future research should focus on developing targeted strategies to overcome these barriers and further explore the interplay between these variables in different educational contexts. By leveraging technology and fostering supportive social environments, Myanmar can make significant strides toward democratizing and improving access to higher education for all its citizens.

6. Practical implications and future directions

The study's findings will benefit Myanmar's higher education policymakers, educators, and stakeholders. The impact of technology on higher education is positive, hence investing in technical infrastructure and tools is crucial. Educational institutions should prioritize internet access, digital platforms, and e-learning tools to maximize technology use to improve performance. Social development is also important since community involvement and social norms affect educational accessibility. Community support programs, inclusive laws, and higher education awareness campaigns can improve learning environments. To make education more accessible, institutions should look into and implement online courses, virtual classrooms, and digital libraries. Technology advancements bring opportunities that should be taken advantage of. Collaboration with international and technology firms can provide additional resources and experience. Socio-political and economic factors must be

addressed to overcome political turmoil and budgetary constraints. Stakeholders should prioritize educational development, student financial aid, and teacher support to reduce these issues.

Future research might address its limitations and examine additional topics to better understand higher education accessibility in Myanmar. Researchers could establish causal links between technology effectiveness, social development, technology, and educational accessibility using longitudinal studies. Increased sample size and responses from public higher education institutions across Myanmar may yield more broadly applicable results and better regional understanding. Future study should focus on technical platforms, tools, and infrastructural challenges to find the best ways to integrate technology into education. A deeper understanding of the socio-political environment—including how political transitions affect funding, institutional stability, and education policies—would help develop strong educational institutions. Financial aid, quality of instruction, student support services, and government laws may all affect higher education accessibility. Interdisciplinary techniques that combine political science, sociology, economics, and education assist analyze and solve Myanmar's complex higher education issues. Addressing these practical implications and future directions can help stakeholders construct effective plans to expand higher education access, which would benefit Myanmar's socioeconomic development.

7. Limitations

Despite its usefulness, this study has certain limitations. First, there are only 199 respondents from private higher education schools in Myanmar, therefore the sample may not be typical of other institutions, including state universities and colleges. The results may not accurately reflect Myanmar's diverse sociopolitical and economic educational contexts because they are limited to Rakhine State. Survey self-reported data may also include social desirability bias. Due to its cross-sectional design, the study cannot track trends or draw causal conclusions. The study emphasizes technology effectiveness but does not explain specific technological instruments, platforms, or infrastructure challenges that may affect their utilization and efficacy. Though the sociopolitical background is acknowledged, little research has examined the complex relationship between political determinants and educational accessibility. Social development is broad, but this study focuses on social norms rather than economic growth, community involvement, or culture. Finally, the study prioritizes Technology Effectiveness, Social Development, and Opportunities over financial aid, instructor quality, student support services, and government laws to predict higher education accessibility. Recognizing these limits will help future research fill these gaps and better understand Myanmar's higher education accessibility issues.

8. Conclusion

This study's comprehensive evaluation of the factors affecting higher education accessibility in Myanmar focuses on the effectiveness of technology, social development, and opportunities. Technology effectiveness greatly enhances educational outcomes, with strong positive connections and notable effects on higher education accessible. Social development shows how community involvement and

positive social norms promote higher education access. Technological development improves accessibility, but socio-political and economic issues still exist.

The study emphasizes how these elements interact and affect educational accessibility. Resolving social, technological, and economic concerns allows interested parties to make plans to improve higher education access. Democratizing education in Myanmar requires strengthening technology infrastructure, fostering social situations, and creating new opportunities through creative solutions.

The study stresses that stable government and greater money are needed to overcome socio-political and economic challenges. To better understand higher education accessibility, future research should examine long-term effects, increase geographic and demographic reach, and dig deeper into technological and infrastructure challenges. Better higher education access will boost Myanmar's socioeconomic development, and tackling these concerns will improve policies and procedures.

Author contributions: Conceptualization, NSA; methodology, NSA and SP; software, MSB; validation, SP; formal analysis, MSB; data curation, MSB and SP; writing—original draft preparation, NSA; writing—review and editing, AB; visualization, AB. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

Allifya, S. A. N., Aknuranda, I., & Amiruddin, L. (2022). Designing an Accessibility Portal for a Higher Education Institution. IJDS Indonesian Journal of Disability Studies, 9(02), 203–216. https://doi.org/10.21776/ub.ijds.2022.009.02.05

Bachmann, M., Subramaniam, A., Born, J., et al. (2023). Virtual reality public speaking training: effectiveness and user technology acceptance. Frontiers in Virtual Reality, 4. https://doi.org/10.3389/frvir.2023.1242544

Barbon, W. J., Myae, C., Vidallo, R., et al. (2021). Applying Participatory Action Research Methods in Community-Based Adaptation With Smallholders in Myanmar. Frontiers in Climate, 3. https://doi.org/10.3389/fclim.2021.734053

Beer, P., & Mulder, R. H. (2020). The Effects of Technological Developments on Work and Their Implications for Continuous Vocational Education and Training: A Systematic Review. Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.00918

Bhatta, T., & Katwal, D. (2022). Regional differences in technology access and use in Myanmar. Asian Education Studies, 203–217.

Bugakova, N., & Prakhov, I. (2022). University admission systems and higher education accessibility. Higher Education, 407–426.

Cheung, A. C. K., & Slavin, R. E. (2012). How features of educational technology applications affect student reading outcomes: A meta-analysis. Educational Research Review, 7(3), 198–215. https://doi.org/10.1016/j.edurev.2012.05.002

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. Routledge.

Fan, J., & Ye, J. (2022). Enhancing learning through technology-based project design courses. Journal of Educational Technology, 101–120.

Fennelly, L., & LaPrairie, K. (2023). Investigating accessibility in online learning. Journal of Distance Education, 21–37.

Gelfand, M., Gavrilets, S., & Nunn, C. (2023). Development dynamics and school improvement in Myanmar: An interdisciplinary approach. Educational Research Review. https://doi.org/10.1016/j.edurev.2022.100873

Gustafsson-Wright, E., Hadani, H., Hirsh-Pasek, K., et al. (2022). Global education trends and research to follow in 2022. Available online: https://www.brookings.edu/articles/global-education-trends-and-research-to-follow-in-2022/ (accessed on 27 September 2024).

Hendayani, R., & Febrianta, D. (2020). Technology integration in supply chain efficiency for family businesses. Journal of Business Research, 89–103.

Hendayani, R., & Febrianta, M. Y. (2020). Technology as a driver to achieve the performance of family businesses supply chain. Journal of Family Business Management, 10(4), 361–371. https://doi.org/10.1108/jfbm-10-2019-0070

Klein, M. (2010). Mechanisms for the Effect of Field of Study on the Transition from Higher Education to Work. Mannheim Centre for European Social Research. Available online: https://edoc.vifapol.de/opus/volltexte/2011/3429/ (accessed on 18 August 2024).

Lapinski, M. K., & Rimal, R. N. (2005). An Explication of Social Norms. Communication Theory, 15(2), 127–147. https://doi.org/10.1111/j.1468-2885.2005.tb00329.x

Legros, S., & Cislaghi, B. (2019). Mapping the Social-Norms Literature: An Overview of Reviews. Perspectives on Psychological Science, 15(1), 62–80. https://doi.org/10.1177/1745691619866455

Lewthwaite, S., Horton, S., & Coverdale, A. (2023). Workplace approaches to teaching digital accessibility: Establishing a common foundation of awareness and understanding. *Frontiers in Computer Science, 5*, Article 1155864. https://doi.org/10.3389/fcomp.2023.1155864

Liu, J., & Gao, F. (2023). Socio-economic influences on higher education accessibility in China. Asia Pacific Education Review, 120–140.

Lowenthal, P., & Lomellini, A. (2023). Educational technologists' knowledge in accessible online learning. Online Learning Journal, 45–60.

Mateus, C., & Acosta, R. (2022). Institutional reputation's influence on higher education accessibility. Journal of Higher Education Policy and Management, 102–120.

McAlvage, K., & Rice, M. (2018). Access and accessibility in online learning: Issues in higher education and K-12 contexts. OLC Research Center for Digital Learning & Leadership, 245–264.

McGinty, S. (2016). Faculty perceptions on accessibility in online learning. Journal of Educational Technology Development and Exchange, 65–79.

Nadine, A., Samira, K., Christin, S., et al. (2023). How to measure the accessibility maturity of organizations—A survey on accessibility maturity models for higher education. Frontiers in Computer Science, 5. https://doi.org/10.3389/fcomp.2023.1134320

Popkova, E., & Sergi, B. (2023). The economic aspect of higher education accessibility. Economics of Education Review.

Raghupathi, V., & Raghupathi, W. (2020). The influence of education on health: An empirical assessment of OECD countries for the period 1995–2015. Preventive Medicine Reports. https://doi.org/10.1016/j.pmedr.2020.101017

Rui, J., & Liu, C. (2021). Social media and workout intentions: Examining the role of social development in educational practices. Journal of Educational Psychology, 445–460.

Sparkman, G., & Weber, E. (2023). Development networks and behavior: The role of social development in Myanmar's diverse culture. Developmental Psychology, 123–135.

Sun, H. (2023). Management strategies in higher education accessibility. Educational Management Administration & Leadership, 580–600.

Trevisan, M., & De Rossi, M. (2023). Quality and accessibility in blended learning. Journal of e-Learning and Knowledge Society, 30–45.

Weeden, E. (2023). A model of an accessibility curriculum in higher education. Frontiers in Computer Science, 5. https://doi.org/10.3389/fcomp.2023.1139350