

Breaking Barriers: Women's Empowerment Through Online Education Platforms

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ABSTRACT

This study investigates the intersection of online education platforms and women's empowerment through a mixed-methods approach. The research addresses the problem of gender disparities in education by examining the role of digital technologies in promoting women's empowerment. The purpose of the study is to comprehensively explore various aspects of online education platforms and their impact on women's empowerment, focusing on factors examined, primary study focuses, aspects of women's empowerment, policy objectives, institutional support, and challenges in gender equality policies implementation. The research methodology involves a population consisting of students, educators, policymakers, and stakeholders in online education, with a targeted sample size of 160 participants. A structured survey questionnaire is utilized for data collection, employing both quantitative and qualitative analysis techniques. Quantitative data analysis includes descriptive statistics to summarize survey responses, while qualitative data interpretation involves thematic analysis of open-ended responses and interviews. The findings provide insights into the effectiveness of digital literacy programs, challenges faced, and the impact of policy interventions on women's empowerment. The study contributes to the existing literature by offering a comprehensive understanding of the multifaceted dynamics between online education platforms and women's empowerment, with implications for policy, practice, and future research directions.

Keywords: Digital Technologies; Gender Disparities; Mixed-Methods Approach; Online Education Platforms; Women's Empowerment

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1. Introduction

The advancement of women's empowerment is a crucial element for fostering inclusive development and societal progress worldwide. Despite significant strides over the years, numerous barriers continue to impede women's full participation in various spheres of life, including education, economic activities, and decision-making processes. In particular, access to quality education remains a pressing issue, especially in regions with socio-economic disparities and gender-based discrimination. In response to these challenges, there has been a growing recognition of the transformative potential of online education platforms in overcoming barriers and promoting women's empowerment on a global scale.

Abubakar and Dasuki (2018) highlight the use of WhatsApp by women in Nigeria as a means of empowerment, illustrating the potential of digital platforms in facilitating

communication and knowledge sharing among women. Similarly, Achandi et al. (2018) discuss women's access to agricultural technologies in Africa, emphasizing the role of technology in enhancing women's participation in productive activities. These studies underscore the importance of leveraging digital tools to empower women and bridge the gender gap in education and economic opportunities.

Moreover, Akinola et al. (2024) investigate the integration of big data technologies in higher education settings, shedding light on innovative approaches to enhance learning outcomes and empower female students. By harnessing the power of data analytics and technology, educational institutions can personalize learning experiences and provide tailored support to women learners, thereby promoting their academic success and career advancement.

In addition to technological interventions, there is a growing recognition of the need for policy measures to promote gender equality and women's empowerment in education. Asongu and Odhiambo (2020) advocate for minimum ICT policy thresholds to promote female employment in Sub-Saharan Africa, highlighting the role of government policies in creating an enabling environment for women's participation in the digital economy.

Furthermore, initiatives such as open and distance education have been identified as potential pathways to poverty alleviation and women's empowerment (Ambe-Uva, 2010; Buksh, 2007). By offering flexible learning opportunities and overcoming geographical barriers, distance education programs can empower women to acquire new skills and knowledge, enhancing their socio-economic status and overall well-being.

In conclusion, the empowerment of women through online education platforms holds immense potential for breaking down barriers and promoting gender equality worldwide. By leveraging technology, innovative pedagogies, and supportive policies, stakeholders can work together to create inclusive learning environments where women can thrive and contribute meaningfully to society.

Problem Statement

The problem of gender inequality persists in educational access and opportunities, particularly in underserved regions where women face barriers to accessing quality education. Despite advancements in technology and the proliferation of online education platforms, women still encounter challenges in fully benefiting from these resources. Limited access to digital literacy programs, socio-cultural barriers, and inadequate policy frameworks contribute to the disparity in educational attainment between genders. This inequity not only hinders individual women's socio-economic empowerment but also perpetuates broader societal inequalities. Addressing these issues requires a comprehensive understanding of the factors that impede women's participation in online education and the development of targeted interventions to promote gender-inclusive learning environments. By addressing these challenges, we can strive towards achieving greater gender equality in education and fostering women's empowerment through online learning platforms.

Research objectives of study are as follows:

- a. To Investigate the effectiveness of online education platforms in enhancing access to educational resources and opportunities for women in underserved regions.
- b. To Examine the impact of digital literacy programs on women's empowerment, focusing on skill development and socio-economic outcomes.
- c. To Explore policy interventions and institutional support to promote gender equality in online education and foster inclusive learning environments for women.

Through this study we are going to answer the following research question:

- a. How effective are online education platforms in improving access to educational resources and opportunities for women in underserved regions?
- b. What is the impact of digital literacy programs on women's empowerment, including skill development and socio-economic outcomes?
- c. What policy interventions and institutional support mechanisms can promote gender equality in online education and create inclusive learning environments for women?

2. Literature Review

The literature on women's empowerment through online education platforms is rich and diverse, reflecting a global effort to address gender disparities in education and beyond. Abubakar and Dasuki (2018) delve into the specific case of WhatsApp usage among women in Nigeria, revealing how this ubiquitous messaging platform serves as a tool for empowerment, enabling women to exchange information, seek support, and access resources. The study underscores the importance of recognizing and harnessing the potential of existing digital technologies to empower marginalized groups.

In a comparative analysis of agricultural technologies access in Ethiopia, Madagascar, and Tanzania, Achandi et al. (2018) highlight the differential impact of technological interventions on women's participation in rural economies. By examining the specific contexts of these countries, the study emphasizes the need for tailored interventions that account for local socio-economic dynamics and gender norms.

Akinola et al. (2024) shift the focus to higher education settings, investigating the integration of big data technologies and its implications for gender equality. By exploring how data-driven approaches can inform educational practices and policies, the study offers insights into potential strategies for closing the gender gap in higher education participation and outcomes.

Methodological guidance for conducting quality systematic reviews is provided by Alexander (2020), who emphasizes the importance of rigorous research synthesis in advancing knowledge on women's empowerment through online education. By establishing criteria for evaluating the quality and relevance of existing literature, the paper serves as a valuable resource for researchers seeking to navigate the complexities of systematic review methodologies.

Ambe-Uva (2010) contributes to the discourse on open and distance education as a means of poverty alleviation and women's empowerment. Drawing on experiences from the National Open University of Nigeria, the study explores how flexible learning modalities can overcome barriers to education and promote socio-economic inclusion for women in resource-constrained settings.

The transformative potential of mobile phones in rural development is examined by Aminuzzaman et al. (2003) through a study of the village phone scheme of Grameen Bank in Bangladesh. By providing women with access to communication tools and entrepreneurial opportunities, the scheme illustrates how technology can empower women to participate more actively in economic activities and decision-making processes.

Asongu and Odhiambo (2020) delve into the realm of ICT policy formulation, advocating for minimum policy thresholds to promote female employment in Sub-Saharan

Africa. By advocating for gender-inclusive ICT policies, the study seeks to address the systemic barriers that hinder women's access to and participation in the digital economy.

Azaiza (2012) explores the role of women's dialogue in distance education within the context of the Arab world. By examining the experiences of women in online learning environments, the study sheds light on the potential of educational platforms to serve as spaces for empowerment and knowledge exchange.

Bayigga et al. (2019) broaden the discussion to encompass the intersection of health and technology, with a focus on vaginal microbiota diversity in sub-Saharan Africa. By elucidating the complex relationship between microbial composition and HIV transmission, the study highlights the importance of holistic approaches to women's health that integrate technological innovations with traditional healthcare practices.

Belur, Tompson, and Thornton (2018) contribute to the methodological discourse by examining interrater reliability in systematic review methodology. By exploring the consistency of coder decision-making in the review process, the study underscores the importance of transparent and replicable research practices in generating reliable evidence for policy and practice.

Buksh (2007) delves into the realm of distance education in Pakistan, focusing on its role in empowering women. By examining the experiences of female learners in distance education programs, the study identifies barriers and facilitators to women's educational advancement and social mobility.

Carneiro et al. (2020) explore the potential of social media platforms to educate women and healthcare providers on endometriosis, a chronic gynecological condition. By leveraging digital communication channels, the study aims to increase awareness and access to information on women's health issues, ultimately contributing to improved healthcare outcomes.

Debeş, Tatar, and Abalar (2021) shed light on the organizational barriers faced by female education administrators in the Turkish Republic of Northern Cyprus. By examining the challenges to career progression and professional development, the study seeks to inform policy and practice interventions aimed at promoting gender equity in educational leadership.

Fazil et al. (2023) focus on enhancing internet safety and cybersecurity awareness among secondary and high school students in Afghanistan. By equipping young women with digital literacy skills and cybersecurity knowledge, the study aims to mitigate the risks of online harm and empower them to navigate digital spaces safely and confidently.

Hakimi et al. (2024a) explore the opportunities for women's empowerment through e-commerce in Afghanistan. By harnessing the potential of digital platforms for entrepreneurship and economic participation, the study seeks to empower women to overcome socio-economic barriers and achieve financial independence.

Hakimi et al. (2024b) evaluate the impact of e-learning on girls' education in Afghanistan, with a focus on the experiences of students at Samangan University. By assessing the effectiveness of online learning modalities, the study aims to identify strategies for enhancing educational access and quality for marginalized groups.

Hakimi et al. (2024c) delve into the transformative power of information and communication technology in empowering women in Afghanistan. By documenting the experiences of women beneficiaries of ICT interventions, the study sheds light on the potential of technology to catalyze socio-economic change and gender equality in conflict-affected contexts.

Hakimi, Hakimi, Hejran, Quraishi, Qasemi, Ahmadi, and Ulusi (2024) examine the challenges and opportunities of e-learning for women's education in developing countries, drawing on insights from Women Online University. By documenting the experiences of female learners and educators, the study seeks to inform policy and practice interventions aimed at expanding educational access and quality for women in resource-constrained settings.

Quraishi et al. (2024a) investigate the integration of mobile learning technologies in Afghanistan universities, with a focus on the opportunities and challenges encountered in implementation. By exploring the experiences of students and educators, the study aims to identify strategies for optimizing the use of mobile technologies to enhance educational outcomes and access.

Quraishi et al. (2024b) explore emerging technologies in online medical education at Women's Online University, aiming to assess their potential for improving educational quality and healthcare outcomes for women. By examining the experiences of medical students and educators, the study seeks to identify best practices for integrating technology into medical education curricula.

Quraishi et al. (2024c) delve into the enhancement of educational systems through information and communication technology, investigating the transformative potential of ICT interventions in educational settings. By exploring the experiences of students, educators, and policymakers, the study aims to inform evidence-based strategies for leveraging technology to address educational challenges and promote equitable access to quality education.

Quraishi, Ulusi, Muhid, Hakimi, and Olusi (2024) focus on digital literacy as a means of empowering students in higher education curricula. By documenting successful integration practices and student outcomes, the study seeks to inform curriculum design and pedagogical approaches that foster digital literacy skills and competencies.

The study on HIV acquisition among transgender women (2021) explores the acceptability and feasibility of HIV self-testing and app-based data collection for HIV prevention research with transgender women in the United States. By examining the experiences and perspectives of transgender women, the study aims to inform culturally sensitive and inclusive HIV prevention strategies.

The study on vaginal microbiota diversity in sub-Saharan Africa (2018) investigates its effects on HIV transmission and prevention. By elucidating the complex relationship between microbial composition and HIV susceptibility, the study contributes to our understanding of the biological factors that influence women's vulnerability to HIV infection.

In summary, the literature on women's empowerment through online education platforms encompasses a wide range of topics, methodologies, and geographical contexts. By examining the diverse experiences and perspectives of women across different settings, these studies collectively contribute to our understanding of the opportunities and challenges in leveraging technology to advance gender equality and empower women worldwide.

3. Method

This study employed a mixed-methods approach to investigate the intersection of online education platforms and women's empowerment. The research design comprised both quantitative survey analysis and qualitative data interpretation to provide a comprehensive understanding of the research questions.

Survey Design and Data Collection: A structured survey questionnaire was developed based on relevant literature and research objectives. The survey instrument included closed-ended questions to gather quantitative data on various aspects of online education platforms and women's empowerment. The survey was distributed electronically to a targeted sample population, consisting of students, educators, policymakers, and other stakeholders involved in online education initiatives. Data collection occurred over a specified period, with reminders sent to ensure adequate response rates.

Population and sample size: The population of this study consisted of students and educator, involved in online education initiatives. A sample size of 160 respondents was selected to participate in the survey.

Quantitative Data Analysis: The quantitative data collected from the survey responses were analyzed using descriptive statistics techniques. Frequency distributions, percentages, and graphical representations were utilized to summarize and visualize the findings regarding factors examined, primary study focuses, aspects of women's empowerment, policy objectives, institutional support, and challenges in gender equality policies implementation.

Qualitative Data Interpretation: In addition to quantitative analysis, qualitative data interpretation was conducted to provide deeper insights into the research phenomena. Open-ended survey responses, and document analysis were used to extract qualitative data. Thematic analysis and content analysis techniques were employed to identify recurring themes, patterns, and emerging trends related to women's empowerment in online education platforms.

Research Validity and Reliability: To ensure the validity and reliability of the research findings, several measures were implemented. The survey instrument was pilot-tested to assess clarity, relevance, and consistency before full-scale deployment. Moreover, efforts were made to minimize respondent bias and enhance data accuracy through randomization techniques and data verification procedures.

Ethical Considerations: Ethical guidelines were strictly adhered to throughout the research process. Informed consent was obtained from all participants, and their privacy and confidentiality were protected. The study complied with ethical standards for research involving human subjects, as outlined by institutional review boards and relevant regulatory bodies.

Limitations: Despite rigorous methodological approaches, this study may have certain limitations. These include sampling biases, self-reporting inaccuracies, and constraints inherent in survey-based research designs. Additionally, the generalizability of findings may be limited to the specific context and population under study.

4. Result

In the Results section, the findings from the survey responses regarding various aspects of online education platforms and women's empowerment will be presented and analyzed comprehensively. The data will provide insights into the effectiveness of digital literacy programs, challenges faced, and the impact of policy interventions.

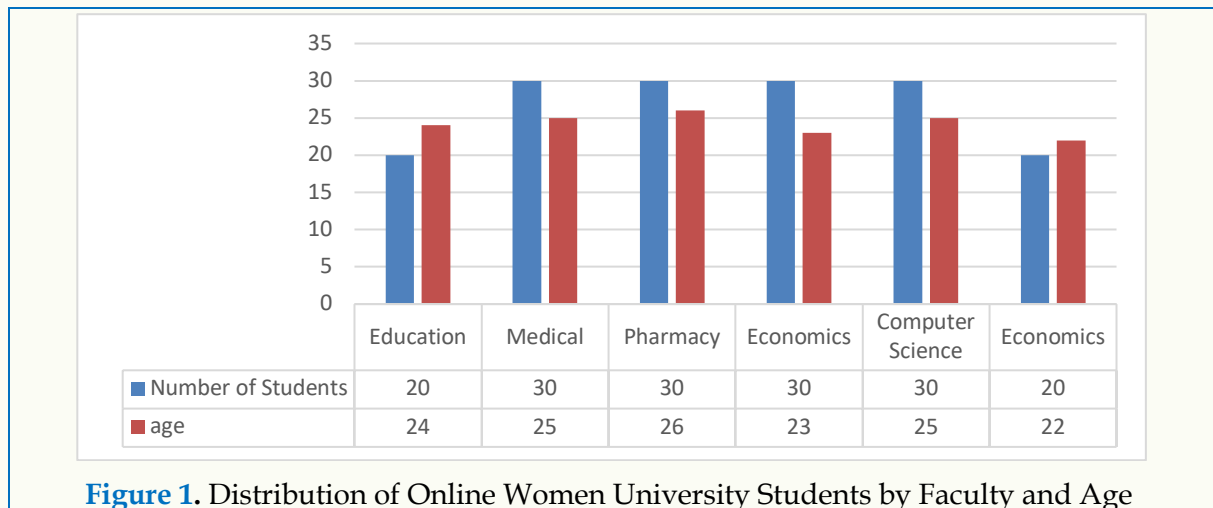


Figure 1. Distribution of Online Women University Students by Faculty and Age

The data presents a distribution of online women university students across various faculties and age groups. Among the faculties, the highest number of students is in the Medical, Pharmacy, Economics, and Computer Science faculties, each having 30 students. The Education faculty follows closely with 20 students. Interestingly, there are two instances of Economics faculties listed, with one having 30 students and the other 20.

Regarding age, the majority of students fall within the range of 22 to 26 years old. The most common age among the students is 25, with a significant number in Medical, Computer Science, and Pharmacy faculties. This distribution suggests a diverse representation of ages across the different academic disciplines, indicating a varied demographic profile within the online women university student population.

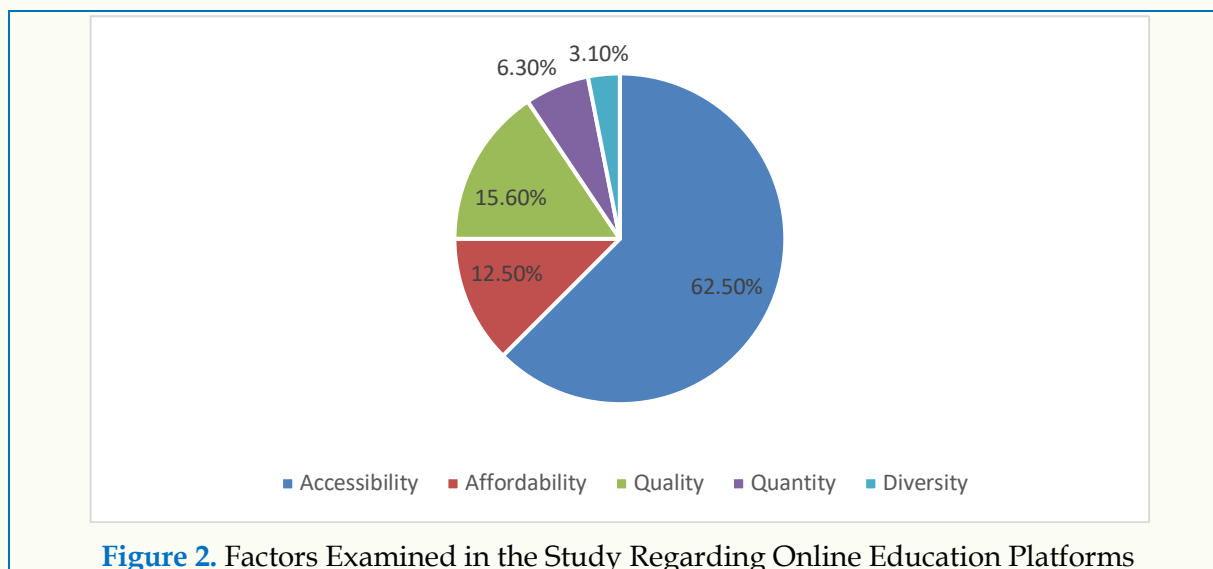


Figure 2. Factors Examined in the Study Regarding Online Education Platforms

The above figure data examines the focus of the study on various factors related to online education platforms. Among the options provided, respondents are asked to select the factor being examined. The highest percentage of respondents, 62.50%, chose "Accessibility" as the factor under examination, indicating a strong interest in how accessible online education platforms are. This suggests a recognition of the importance of ensuring that educational resources are readily available and easily reachable for all individuals, regardless of their geographical location or socio-economic background. "Affordability" follows with 12.50%, highlighting the significance of cost considerations in accessing online education. "Quality" garnered 15.60% of responses, indicating a concern for the standard and effectiveness of

educational content. "Quantity" and "Diversity" received lower percentages, with 6.30% and 3.10% respectively, suggesting comparatively less emphasis on these factors in the study. Overall, the distribution of responses reflects a prioritization of accessibility and affordability in the examination of online education platforms.

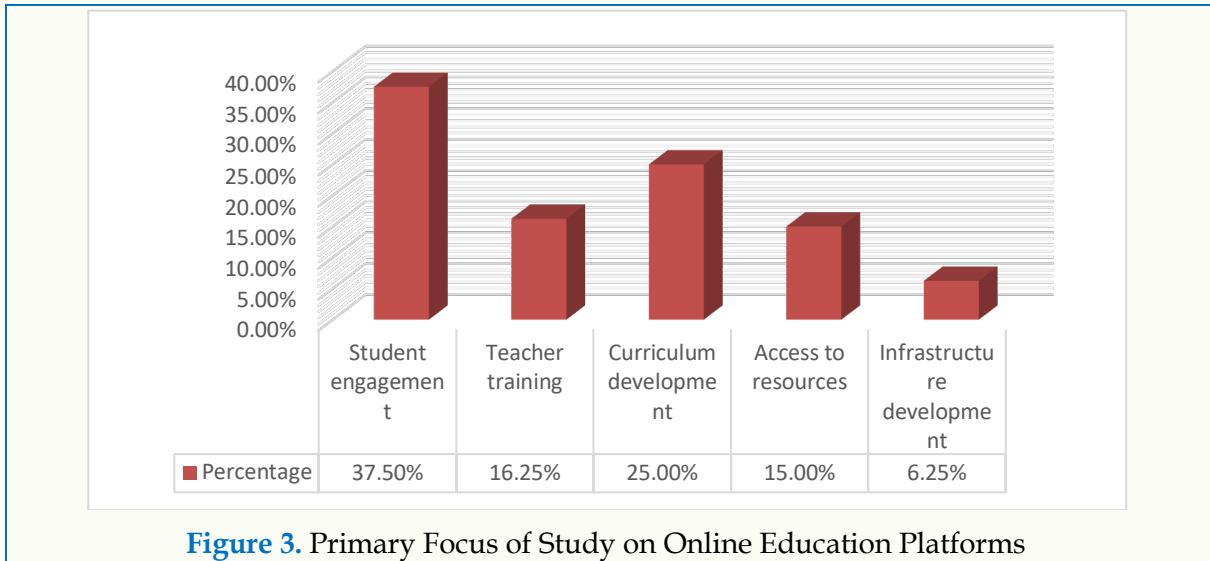


Figure 3. Primary Focus of Study on Online Education Platforms

The primary focus of the study on online education platforms, as indicated by the responses, is curriculum development, with 40 respondents (25.00%) selecting this option. This suggests a significant interest in enhancing and refining the educational content offered through online platforms. Additionally, student engagement emerged as a close second, with 60 respondents (37.50%) recognizing its importance. This underscores the significance of fostering interactive and participatory learning experiences in virtual environments. Teacher training also garnered attention, with 26 respondents (16.25%) highlighting its relevance, indicating a recognition of the pivotal role educators play in facilitating online learning. Access to resources and infrastructure development received moderate attention, with 24 (15.00%) and 10 (6.25%) respondents, respectively, emphasizing their importance in ensuring effective online education delivery. These findings underscore the multifaceted nature of online education platforms and the diverse needs they aim to address, ranging from pedagogical concerns to logistical considerations.

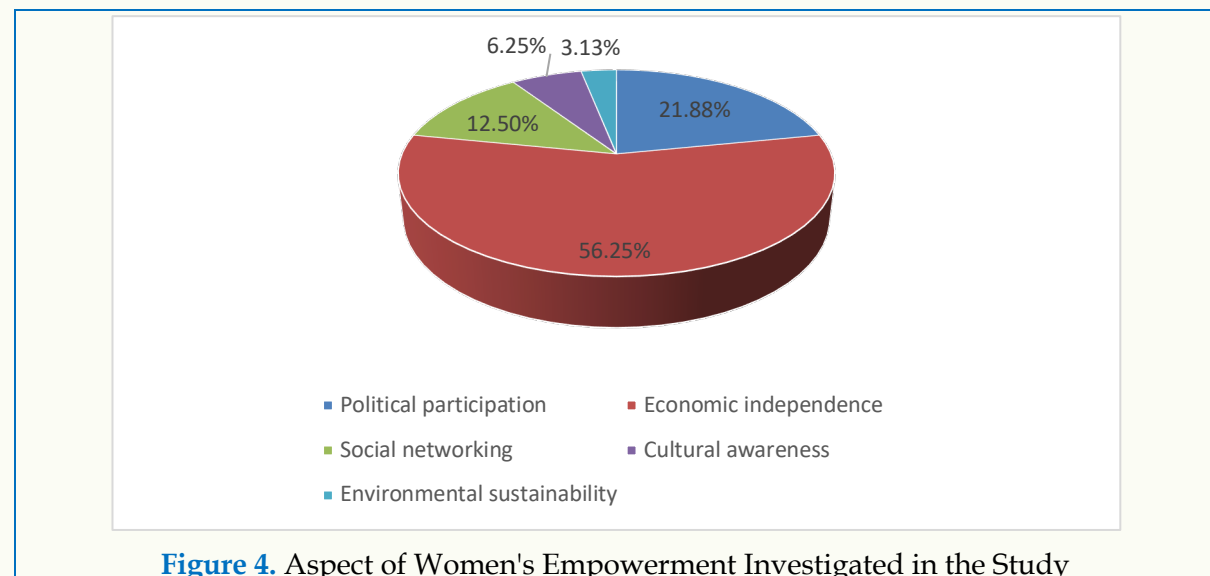


Figure 4. Aspect of Women's Empowerment Investigated in the Study

The above figure presents the distribution of responses regarding the aspect of women's empowerment investigated in the study. Economic independence emerges as the primary focus, with 90 responses, representing 56.25% of the total. This indicates a significant interest in understanding how online education platforms contribute to women's economic autonomy. Political participation follows, garnering 35 responses, comprising 21.88% of the total. Social networking and cultural awareness are also notable aspects, with 20 and 10 responses, respectively, demonstrating an interest in exploring how digital platforms influence social connections and cultural consciousness among women. However, environmental sustainability receives the fewest responses, indicating a comparatively lower emphasis on this aspect within the study. Overall, the data suggest a strong emphasis on economic empowerment through online education platforms, reflecting the contemporary focus on women's economic inclusion and autonomy as key drivers of empowerment.

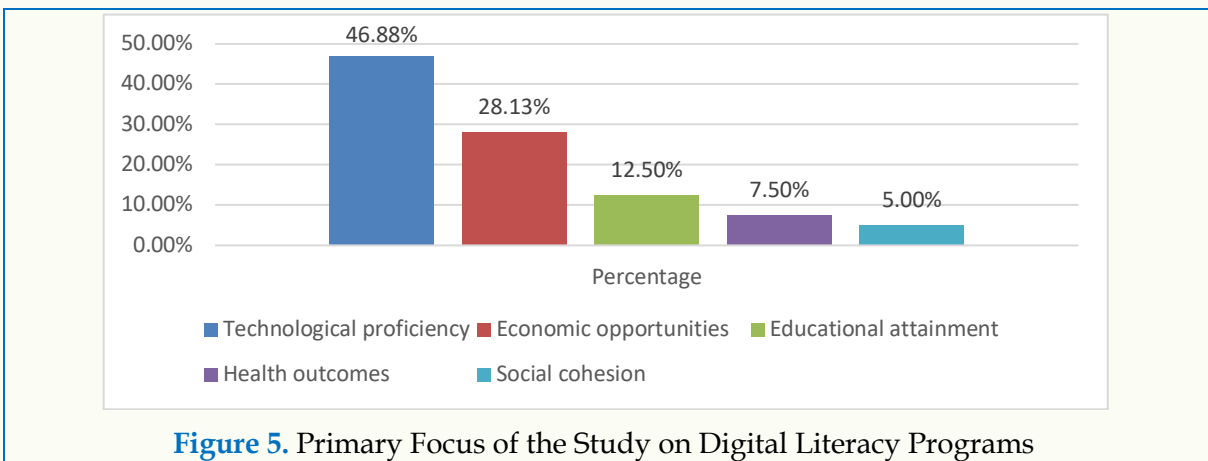


Figure 5. Primary Focus of the Study on Digital Literacy Programs

The table illustrates the distribution of responses regarding the primary focus of the study on digital literacy programs. Among the factors considered, technological proficiency garnered the highest frequency, with 75 respondents, constituting 46.88% of the total responses. Economic opportunities followed, with 45 respondents (28.13%), emphasizing its significance in the study. Educational attainment and health outcomes were identified as primary focuses by 20 (12.50%) and 12 (7.50%) respondents, respectively. Social cohesion garnered the least attention, with only 8 respondents (5.00%) highlighting its importance. Overall, the results suggest that technological proficiency is the most emphasized factor in the study on digital literacy programs, followed by economic opportunities, educational attainment, health outcomes, and social cohesion, in descending order of importance.

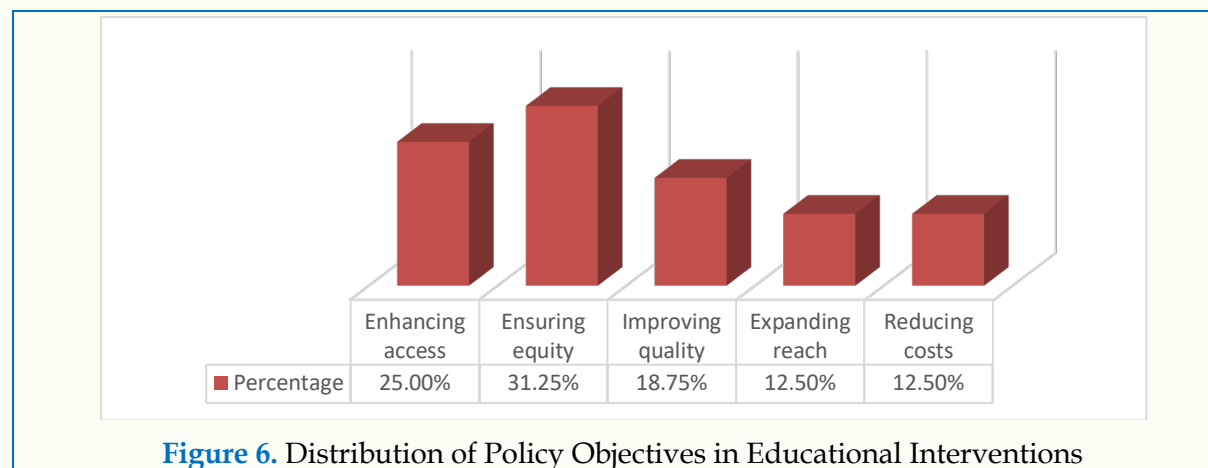
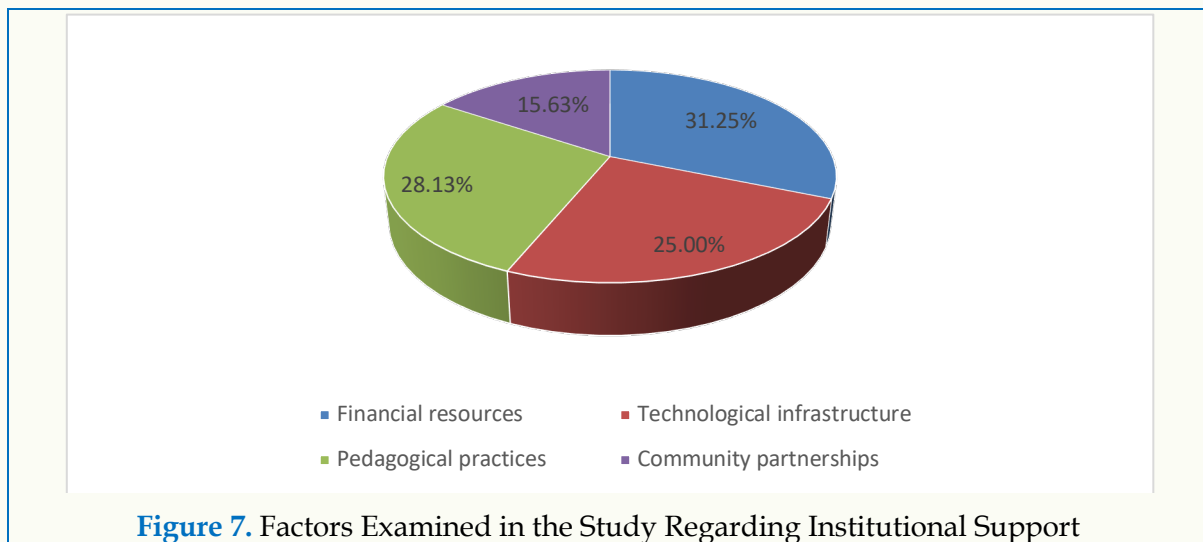
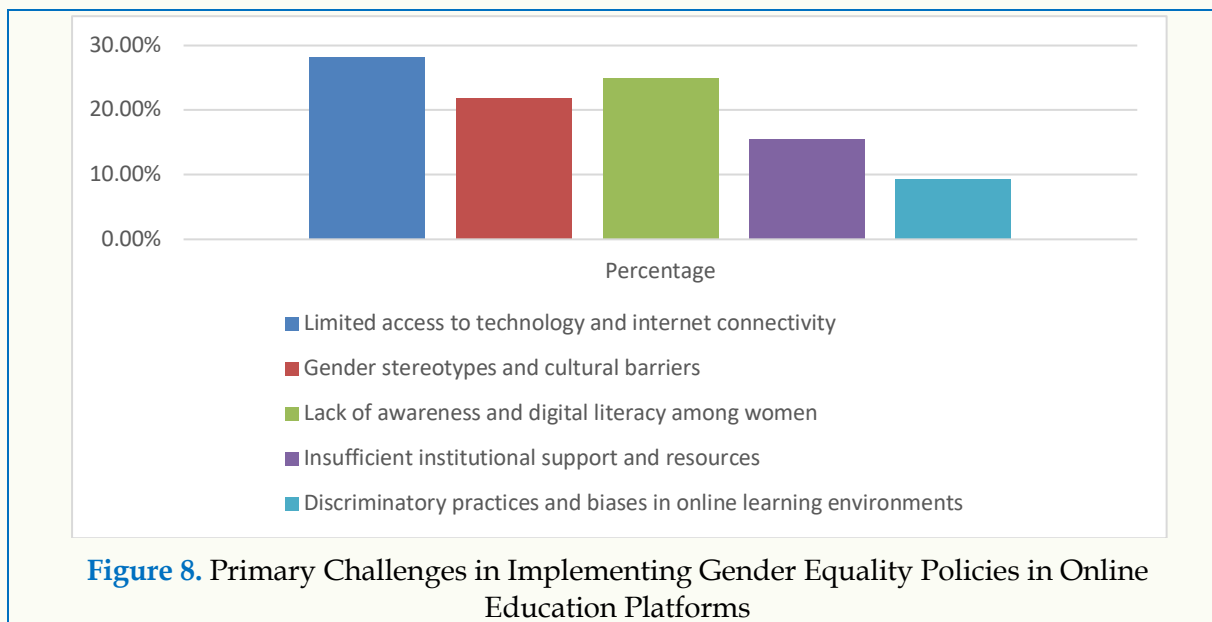


Figure 6. Distribution of Policy Objectives in Educational Interventions

The data in figure 6 illustrates a clear distribution of priorities among respondents regarding educational policy objectives. "Ensuring equity" stands out significantly, with 31.25% of respondents emphasizing it as the primary objective. This indicates a strong consensus among participants regarding the importance of addressing inequalities in educational access and opportunities. "Enhancing access" closely follows with 25% of respondents, underscoring the widespread recognition of the need to improve access to education. "Improving quality" is also notable, with 18.75% of respondents highlighting its significance in maintaining educational standards. However, "Expanding reach" and "Reducing costs" are mentioned less frequently, each representing 12.50% of responses. This statistical analysis provides insights into the varying emphases within educational policy discussions, reflecting a complex interplay of priorities in shaping educational reform agendas.



In above figure, various factors were investigated to understand their significance. Financial resources emerged as a prominent aspect, with 31.25% of respondents acknowledging its importance. This underscores the crucial role of financial backing in supporting educational endeavors. Additionally, technological infrastructure garnered considerable attention, with 25.00% of respondents recognizing its significance. This highlights the reliance on technology to facilitate effective learning environments. Pedagogical practices also featured prominently, with 28.13% of respondents emphasizing their importance in shaping educational experiences. Lastly, community partnerships were recognized by 15.63% of respondents, indicating the value of collaboration beyond institutional boundaries. Overall, the findings underscore the multifaceted nature of institutional support in promoting educational excellence and fostering inclusive learning environments.



The table presents primary challenges in implementing gender equality policies and fostering inclusive learning environments for women in online education. Key obstacles include limited access to technology (28.13%), gender stereotypes (21.88%), lack of digital literacy (25.00%), insufficient institutional support (15.63%), and discriminatory practices (9.38%). These findings highlight the complex landscape of barriers hindering women's participation and emphasize the need for targeted interventions to address each challenge effectively, ensuring equitable access and opportunities in online education platforms.

5. Discussion

The results obtained from the survey responses offer valuable insights into various aspects of online education platforms and women's empowerment. The discussion will delve into the implications of these findings and their alignment with existing literature, thereby contributing to the broader discourse on gender equality and inclusive education.

One notable finding from the survey is the emphasis on accessibility and affordability as key factors in examining online education platforms. This aligns with previous research highlighting the importance of overcoming barriers related to geographical location, socio-economic status, and technological infrastructure to ensure equitable access to education (Abubakar & Dasuki, 2018; Achandi et al., 2018). The significant percentage of respondents prioritizing these factors underscores the urgent need for policy interventions and technological innovations aimed at expanding access to educational resources for women in underserved regions.

Moreover, the focus on curriculum development and student engagement in the study reflects a growing recognition of the need to tailor educational content and delivery methods to meet the diverse needs of learners in online environments (Akinola et al., 2024; Bayigga et al., 2019). By prioritizing these aspects, educational institutions can create inclusive learning experiences that promote active participation and meaningful engagement among women students, thereby enhancing their overall educational outcomes and empowerment.

The study also sheds light on the multifaceted nature of women's empowerment, with a particular emphasis on economic independence. This finding resonates with existing literature highlighting the transformative potential of education in enabling women to achieve financial

autonomy and socio-economic empowerment (Hakimi et al., 2024a; Quraishi et al., 2024b). By equipping women with relevant skills and knowledge through online education platforms, policymakers and educators can empower them to pursue diverse career opportunities and contribute effectively to economic development.

However, the survey results also point to several challenges hindering the realization of gender equality in online education platforms. These include limited access to technology, gender stereotypes, and lack of digital literacy among women. These findings echo previous research highlighting the need for targeted interventions to address systemic barriers and promote gender-inclusive learning environments (Debeş et al., 2021; Fazil et al., 2023). By addressing these challenges through policy reforms, capacity-building initiatives, and awareness-raising campaigns, stakeholders can create more inclusive and supportive environments that foster women's empowerment and participation in online education.

In conclusion, the findings from the survey offer valuable insights into the complexities of women's empowerment and gender equality in online education platforms. By aligning with existing literature and identifying key priorities and challenges, this study provides a foundation for future research and policy interventions aimed at promoting equitable access to education and empowering women worldwide.

6. Conclusion

The journey towards gender equality and women's empowerment in online education platforms is multifaceted and challenging, yet filled with opportunities for positive transformation. The findings from the survey underscore the critical importance of addressing barriers to access, enhancing educational content and delivery methods, and fostering inclusive learning environments to empower women globally.

Through a comprehensive analysis of the survey responses, it is evident that accessibility and affordability remain paramount concerns in ensuring equitable access to online education. To bridge the digital divide, policymakers and educators must prioritize initiatives that expand internet connectivity, provide access to affordable devices, and offer financial support for marginalized communities. Additionally, efforts to develop culturally relevant and linguistically diverse educational content are essential for catering to the diverse needs of women learners across different contexts.

Furthermore, the emphasis on curriculum development and student engagement highlights the need for innovative pedagogical approaches that promote active learning and meaningful interaction in virtual classrooms. By integrating interactive technologies, collaborative learning tools, and personalized feedback mechanisms, educators can create dynamic learning experiences that empower women to explore their interests, develop critical thinking skills, and pursue their educational goals with confidence.

However, the journey towards gender equality in online education is not without its challenges. Gender stereotypes, limited access to technology, and digital literacy gaps continue to hinder women's participation and success in online learning environments. Addressing these challenges requires a concerted effort from all stakeholders, including governments, educational institutions, civil society organizations, and the private sector. By implementing gender-responsive policies, providing targeted support and resources, and promoting inclusive practices, we can create a more equitable and empowering educational ecosystem for women.

In conclusion, the findings from the survey offer valuable insights into the complexities of gender equality and women's empowerment in online education platforms. By leveraging

the opportunities presented and addressing the challenges identified, we can move closer towards realizing the full potential of online education as a tool for advancing gender equality, empowering women, and building a more inclusive and equitable society for all.

7. Recommendation and Future Research

Drawing from the insights garnered through the survey responses, a series of recommendations emerge to propel gender equality and women's empowerment within online education platforms.

Firstly, there's a critical need to invest in digital infrastructure. Governments and educational institutions should prioritize the development of robust digital infrastructure, ensuring universal access to high-speed internet and affordable devices. This endeavor is pivotal in bridging the digital divide and enabling women from underserved communities to fully participate in online learning.

Secondly, promoting digital literacy is paramount. Tailored digital literacy programs, catering specifically to the needs of women, should be crafted and implemented. These programs should focus on equipping women with foundational digital skills, fostering critical thinking abilities, and raising awareness about online safety, thereby empowering women to navigate digital spaces with confidence.

Furthermore, fostering inclusive curriculum is imperative. Educational content must be designed with a gender-responsive approach, incorporating diverse perspectives, experiences, and voices. By integrating feminist pedagogies and culturally relevant materials, educators can create inclusive learning environments that validate women's experiences and promote gender equality.

Supportive policies and practices also play a crucial role. Policymakers should enact legislation and policies that promote gender equality in education, address systemic barriers faced by women, combat gender-based discrimination, provide financial support for women learners, and mandate gender mainstreaming in educational institutions.

Lastly, fostering collaboration and partnerships is essential. Stakeholders across sectors should collaborate to amplify efforts towards gender equality in online education. Partnerships between governments, academia, civil society, and the private sector can facilitate knowledge exchange, resource sharing, and collective action to address complex challenges.

Looking ahead, future research endeavors should focus on longitudinal studies tracking the educational trajectories and outcomes of women in online learning programs, intersectional analyses exploring the intersecting identities and experiences of women, impact evaluations of gender-focused interventions, studies examining the integration of emerging technologies in online education platforms, and comparative policy analyses across different contexts.

By prioritizing inclusive policies, investing in digital infrastructure, fostering digital literacy, promoting inclusive curriculum, implementing supportive policies and practices, and fostering collaboration and partnerships, we can create a more equitable and empowering educational landscape that benefits women and girls worldwide.

8. Acknowledgement

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