

INFLUENCE OF GENDER DIFFERENCES ON THE USE OF ELECTRONIC INFORMATION RESOURCES BY UNDERGRADUATES OF UNIVERSITY OF ILESA, OSUN STATE, NIGERIA

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Abstract

The study examined the influence of gender differences on the use of electronic information resources (EIRs) by undergraduates of the University of Ilesa, Osun State, Nigeria. The main objective was to determine whether gender differences significantly influence the frequency, perceived effectiveness, and overall utilisation of EIRs among undergraduates. The study employed a descriptive cross sectional survey design, targeting all 4,163 registered library users in the 2025/2026 academic session. A sample of 200 undergraduates was determined using Cochran's (1977) formula, and data were collected through a structured questionnaire (Cronbach's $\alpha = 0.81$). The data were analysed using descriptive statistics, Chi square tests, and independent samples t tests. The findings showed that undergraduates have a high rate of EIR usage with a grand mean of 3.59 ($SD = 0.60$). The Chi square test showed no significant association between gender and frequency of EIR usage ($\chi^2(3, N = 197) = 1.599, p = .660$). Independent samples t tests showed no significant difference in perceived effectiveness ($t(195) = -0.410, p = .682$) or overall EIR utilisation ($t(195) = -0.434, p = .664$). These results indicate that gender does not play a major role in the accessibility, utilisation, and perceived value of electronic information resources by undergraduates. The study recommends sustaining digital literacy training, enhancing ICT infrastructure, and promoting equal access to maintain equitable EIR engagement.

Keywords: Electronic Information Resources; Gender Differences; Digital Literacy; University of Ilesa; Academic Libraries; Nigeria

1. Introduction

The introduction and the swift growth of Electronic Information Resources (EIR) have radically changed the way undergraduate students navigate, receive, and use academic information in modern university environments. Electronic information sources, such as online databases, e journals, e books, and other digital information platforms are the invaluable resources of research, learning, and acquisition of knowledge in the 21st century academic environment (Verma and Dwivedi, 2023). The use of these EIR by students, both undergraduate and postgraduate, has become a necessity due to the speed, convenience, and remoteness of the access to scholarly information that is not necessarily easily accessible in print format.

Consequently, there is growing interest of academic libraries in electronic resources to increase the ease of accessing information and advance academic performance of students. With these electronic information resources available, the proportion of usage among the undergraduate students tends to vary on a number of factors including computer literacy, accessibility, awareness, motivation, and gender.

One critical factor that has attracted scholarly attention in recent years is gender difference in the use of electronic information resources. Gender, as a socio cultural construct, influences access to technology, digital literacy, attitudes toward ICT, and patterns of information seeking behaviour (Abima et al., 2021). Theoretical frameworks such as the Technology Acceptance Model (TAM) and digital divide theory have been applied to understand why gender differences in technology use persist in some contexts but not others. TAM suggests that perceived usefulness and ease of use are primary determinants of technology adoption, and prior studies have examined whether these perceptions differ by gender (Davis, 1989). Digital divide theory further positions gender as one of several axes along which unequal access to and use of digital resources is stratified (van Dijk, 2005). According to Christensen (2024), gender differences might also affect the interaction of male and female students with technology, information search, and the use of electronic material.

Empirical research studies have been done in Nigerian universities to determine the effect of gender on use of electronic information resources and the results have been mixed. Kafi et al. (2025) found that male students use electronic resources more and show greater expertise in IT related skills than their female peers, and this disparity has been ascribed to factors like higher exposure to technology, cultural stereotypes, and levels of confidence in using digital tools. On the contrary, Bamidele and Adekanmbi (2019) reported few or no significant gender differences in the utilisation of electronic information resources, which may indicate that access to education and technology is gradually closing the gender gap. Moreover, Maxwell and Maxwell (2014) demonstrated that digital literacy is highly important in defining the capability of students to successfully use electronic resources, and changes in digital skills among gender groups can affect usage patterns.

Although the number of electronic information resources available in Nigerian universities, including the University of Ilesa, has been increasing, it is evident that undergraduates are not

always making full use of such materials for academic activities. The literature indicates that gender can be a contributing factor to differences in usage patterns, access, and digital competence. These inconsistencies in empirical findings create a knowledge gap about the effect of gender differences on EIR use among undergraduates, thus raising concerns about unequal academic opportunity. There is therefore a need to investigate the effects of gender differences on the use of electronic information resources among students of the University of Ilesa in order to offer evidence based recommendations for policy and practice.

1.1 Objectives of the Study

The main objective of this study is to examine the influence of gender differences on the use of electronic information resources by undergraduates of University of Ilesa, Osun State. The specific objectives are to examine the extent to which undergraduates utilise EIR at the University e Library for their academic activities; to assess the influence of gender on the frequency of EIR usage; and to assess the influence of gender on the perceived effectiveness of EIR usage.

1.2 Research Questions and Hypothesis

The study was guided by three research questions: (1) To what extent do undergraduates at the University of Ilesa utilise EIR at the University e Library for their academic activities? (2) How does gender influence the frequency of EIR usage at the e Library? (3) How does gender influence the perceived effectiveness of EIR usage? The null hypothesis states that there is no significant difference in the extent of EIR utilisation between male and female undergraduates at the University of Ilesa.

2. Review of Related Literature

This section reviews empirical and theoretical literature on gender differences in the use of electronic information resources, situating the present study within ongoing scholarly debate. Technology Acceptance Model (TAM) and digital divide theory have provided productive lenses for examining gender differences in technology use. TAM posits that perceived usefulness and perceived ease of use are central predictors of technology adoption (Davis, 1989). Research applying TAM in educational contexts has produced mixed findings with respect to gender, with some studies identifying higher self efficacy among male students and others finding no significant gender differences when institutional support is held constant. Digital divide theory emphasises that access to and meaningful use of digital technologies is unequally distributed across social groups, including by gender (van Dijk, 2005). In the Nigerian context, these frameworks underscore the importance of examining not only whether students use EIRs but also the structural and attitudinal conditions that shape such use.

According to Burke (2017), gender issues have been in the forefront of impassioned public discussion regarding higher education. Garutsa and Owolabi (2025) highlighted that gender plays a significant role in the usage of electronic databases. According to Campos and Scherer (2024), male students were more likely than female students to use electronic information resources. They further reported that even when there was control for attitude towards the use of e resources or training in the use of e resources the relationship between gender and e resources was

maintained. Qazi et al. (2022) observed that there is a gender gap in the use of information communication technology. They found that females are normally less confident than males in handling technology such as computer software.

A research carried by Bassi (2019) found that there were significant gender differences in use of electronic information resources. The results revealed that male students were a more substantial percentage of users (68.51%), reported a much higher score on attitude towards electronic resources ($t = -3.682, p < 0.000$). Concerning purpose of use, the male students were more inclined to use electronic resources in research activities, 43.5% as opposed to 38.1% of the female students, while the female students were more inclined to assignments and leisure related activities.

On the same note, Buba et al. (2018) in their research on the universities in the Jigawa State reported statistically significant gender differences in the frequency of using electronic resources as well as the information literacy levels. The research revealed that male students made greater use of the electronic resources and had a higher range of information literacy with 77.8 percent of males having high competence as compared to only 43.6 percent of female students. Surprisingly, the problems related to the utilisation of electronic resources like poor internet connectivity and unreliable power supply were identified to be shared by both genders, which indicates that all students regardless of their gender are subjected to the problem of infrastructural limitations.

The review reveals an inconsistency in findings across Nigerian universities, suggesting that institutional context plays a significant role in determining whether gender differences in EIR use emerge. The present study contributes to this body of knowledge by examining the University of Ilesa, a relatively new institution in Southwest Nigeria, thereby extending the geographic and institutional scope of prior research in this area.

3. Methodology

The study utilised a descriptive cross sectional survey design in assessing the influence of gender differences on the use of electronic information resources by undergraduates of University of Ilesa. The target population comprises all the 4,163 registered library users as at 2025/2026 academic session. The sample size of 200 registered library users was determined using Cochran's (1977) formula to achieve a confidence level of 95% and a margin of error of 5%. The formula is expressed as:

$$n_0 = Z^2 pq / e^2$$

Where n_0 is the sample size, Z is the Z value (1.96 for 95% confidence level), p is the estimated proportion (0.5), $q = 1 - p$, and e is the desired level of precision (0.05). For a finite population, the adjusted formula is:

$$n = n_0 / (1 + (n_0 - 1) / N)$$

Where N is the population size (4,163). Data were collected using a structured self administered questionnaire comprising items measuring EIR utilisation frequency, perceived effectiveness, and overall EIR utilisation, all rated on a 5 point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The instrument was validated through face and content validity procedures involving a review by three subject matter experts. Internal consistency reliability was assessed using Cronbach's

alpha, which yielded a coefficient of 0.81, indicating acceptable reliability. A total of 200 questionnaires were distributed, of which 197 were returned with complete usable responses, yielding a response rate of 98.5%. Data were analysed using descriptive statistics, Chi square tests, and independent samples t tests in SPSS.

4. Results and Discussion

4.1 Extent of EIR Utilisation (Research Question 1)

The descriptive statistics revealed that undergraduates at the University of Ilesa had a grand mean utilisation score of 3.59 (SD = 0.60), indicating a high level of use of electronic information resources for academic activities. The relatively low standard deviation suggests that respondents' views were fairly homogeneous. The individual item means ranged from 3.21 (personal academic development) to 3.91 (literature review and research), as presented in Table 1 and Figure 1. These results correlate with the previous research by Adebayo (2015) and Ogunleye (2017), who found that Nigerian undergraduates are increasingly turning to digital resources as a way to supplement traditional library sources.

Table 1. Descriptive statistics of EIR utilisation by academic activity

Utilisation Item	N	Mean	SD	Rank
I use EIR for literature review and research	197	3.91	1.420	1
I use EIR to prepare for examinations and tests	197	3.78	1.432	2
I use EIR to access lecture notes and reading materials	197	3.65	1.433	3
I use EIR for course assignments and projects	197	3.36	1.457	4
I use EIR for personal academic development	197	3.21	1.369	5
Grand Mean	197	3.59	0.60	

Source: Field survey, 2025

4.2 Gender and Frequency of EIR Usage (Research Question 2)

A Chi square test of independence was conducted to examine the relationship between gender and frequency of EIR usage. The cross tabulation is presented in Table 2 and Figure 2. The results showed no significant association between gender and frequency of use, $\chi^2(3, N = 197) = 1.599, p = .660$. This indicates that male and female undergraduates do not differ significantly in how frequently they use electronic information resources. Therefore, gender does not significantly influence the frequency of EIR usage among students at the University of Ilesa.

Table 2. Cross tabulation of gender and frequency of EIR usage

Gender	3-4/wk	Daily	Once/wk	Twice/wk	Total
Male	20	42	16	25	103
Female	14	43	18	19	94
Total	34	85	34	44	197

$$\chi^2(3, N = 197) = 1.599, p = .660$$

4.3 Gender and Perceived Effectiveness (Research Question 3)

An independent samples t test was conducted to determine whether there was a significant difference in perceived effectiveness of

electronic information resources between male and female undergraduates. Levene's test for equality of variances was not significant ($F = 0.150$, $p = .699$), indicating that the assumption of homogeneity of variance was satisfied. The results revealed no significant difference between male students ($M = 3.05$, $SD = 0.62$) and female students ($M = 3.09$, $SD = 0.58$); $t(195) = -0.410$, $p = .682$. Therefore, gender does not significantly influence the perceived effectiveness of EIR usage among undergraduates.

Table 3. Group statistics for perceived effectiveness by gender

Gender	N	Mean	SD	SE Mean
Male	103	3.054	0.616	0.061
Female	94	3.089	0.577	0.060

$t(195) = -0.410$, $p = .682$

4.4 Hypothesis Testing: Overall EIR Utilisation

An independent samples t test was conducted to examine if there was a significant difference in EIR utilisation between male and female undergraduates. Levene's test for equality of variances was not significant ($F = 0.840$, $p = 0.361$), indicating that the assumption of homogeneity of variance was met. The results showed that there was no significant difference in utilisation scores between male students ($M = 3.50$, $SD = 0.58$) and female students ($M = 3.66$, $SD = 0.63$); $t(195) = -0.434$, $p = 0.664$. Therefore, the null hypothesis was not rejected, indicating that gender does not significantly influence the extent of EIR utilisation. The summary of all hypothesis tests is depicted in Figure 4.

Table 4. Group statistics for overall EIR utilisation by gender

Gender	N	Mean	SD	SE Mean
Male	103	3.500	0.577	0.057
Female	94	3.662	0.628	0.065

$t(195) = -0.434$, $p = .664$

5. Discussion

The results of this study show that undergraduates in the University of Ilesa are actively using the electronic information resources to aid their academics with a grand mean of 3.59 ($SD = 0.60$). The standard deviation is rather small, which indicates that the responses of students were quite similar and there is a certain agreement among undergraduates on how frequently EIRs are used to perform academic activities like research, assignments, and self directed learning. This result correlates with the previous research by Adebayo (2015) and Ogunleye (2017), who also found that Nigerian undergraduates are increasingly turning to digital resources as a way to supplement traditional library sources because the online academic resources are more convenient, fast, and topical. The highest utilisation score was recorded for literature review and research ($M = 3.91$), which reflects the growing dependence of undergraduates on digital databases and e journals for sourcing scholarly materials, a trend that has been observed across various Nigerian universities (Verma and Dwivedi, 2023).

In contrast to some of the past studies that indicated gender differences in the use of EIR, this study has found no significant relationship between gender and frequency of use ($\chi^2(3, N = 197) = 1.599$, $p = .660$). Likewise, t tests using independent samples indicated the absence of any significant difference between male

and female students regarding perceived effectiveness ($t(195) = -0.410$, $p = .682$) or overall utilisation ($t(195) = -0.434$, $p = .664$). These findings show that gender does not play a major role in determining the rate at which the students use electronic resources, the perceived effectiveness of these resources, and the level at which they consider them to be incorporated into their academic activities in the University of Ilesa.

This observation is in contrast to the findings of other areas like Adamawa and Jigawa States where the male population is said to utilise electronic resources more, be more information literate, and have more confidence in the use of ICT (Bassi, 2019; Buba et al., 2018). It is also worth noting that the present sample of 197 participants is consistent with adequate statistical power for detecting medium to large effect sizes at the conventional alpha level of .05, suggesting that the null findings across all three hypotheses are not simply attributable to insufficient sample size (Cohen, 1988). The fact that there are no large gender disparities in this study could also be an indication that there is indeed a convergence in the digital access, ICT exposure, and digital literacy between male and female students.

It indicates that the presence of institutional initiatives of delivering equal access to computers, online databases, and training programmes might have helped to decrease the conventional gender differences in technology usage. These data can be aligned with more recent studies suggesting that the gender digital gap is becoming narrow in case of equal gender opportunity (Okoro, 2020; Chukwu, 2021). The absence of significant gender differences at the University of Ilesa may reflect the relatively new and equitable institutional culture of this university, where both male and female students have had similar opportunities to engage with digital library services from the outset. This interpretation is consistent with the broader literature suggesting that newer institutions may be less encumbered by entrenched gender inequities in technology access (Bamidele and Adekanmbi, 2019).

It is important, however, to note that these findings should not be interpreted as conclusive evidence of full equity of access to EIRs at the University of Ilesa. The present study measured frequency of use and perceived effectiveness among registered library users. It did not assess structural determinants of access such as personal device ownership, mobile data costs, internet reliability, or hours of library access. Additionally, the restriction of the sampling frame to registered library users means that students who never register with the library were excluded. It is possible that gender plays a role in determining who registers with the library in the first place, and that the absence of gender differences observed in this study is partly a product of this self selection. Future research should examine both library users and non users to obtain a more complete picture of gender based patterns in digital information access at the University of Ilesa. Furthermore, the three dependent variables, that is, frequency of EIR usage, perceived effectiveness, and overall EIR utilisation, are likely to be moderately to highly inter correlated, as they all reflect related dimensions of EIR engagement. Future studies may wish to report the inter correlations among these measures or employ multivariate analysis to determine whether the three dimensions represent sufficiently distinct constructs to warrant separate hypothesis testing.

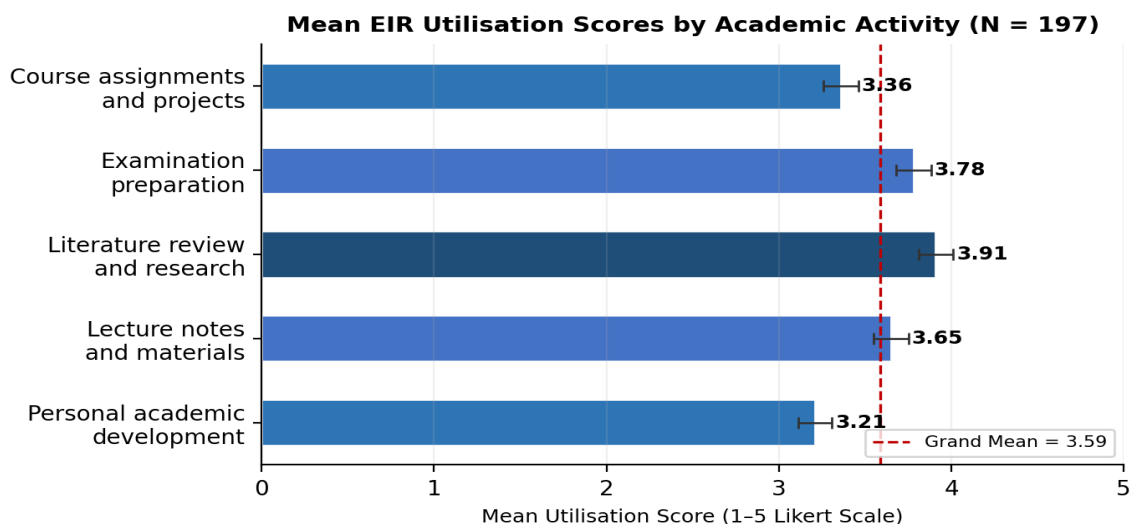


Figure 1: Mean EIR Utilisation Scores by Academic Activity (N = 197)
Source: Field survey, 2025

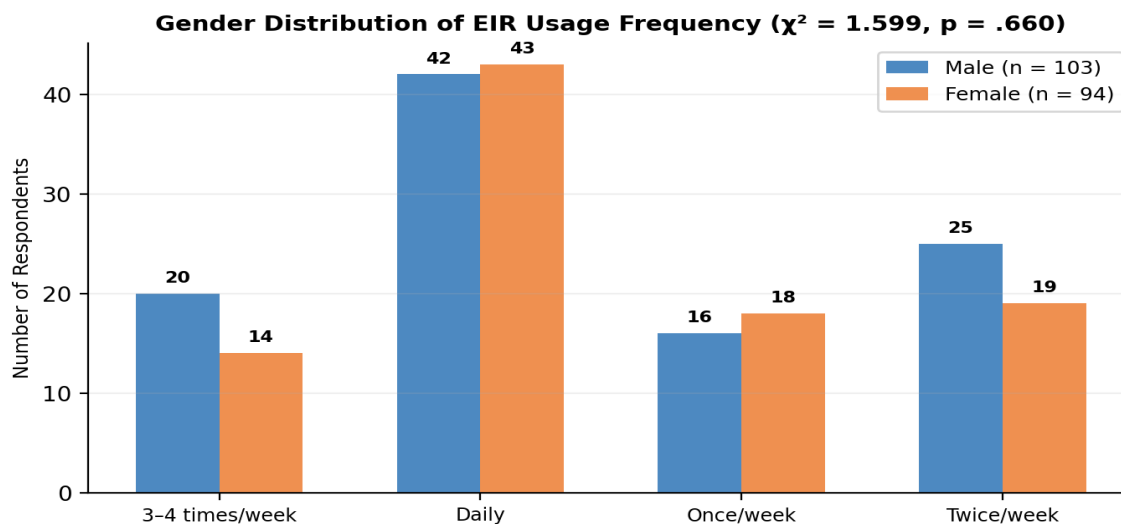


Figure 2: Gender Distribution of EIR Usage Frequency
Source: Field survey, 2025

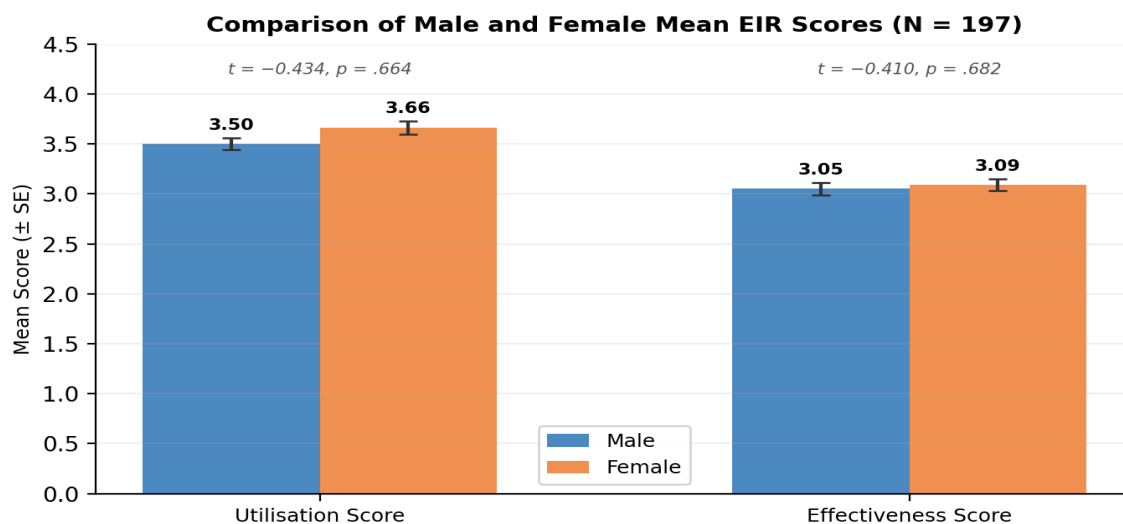


Figure 3: Comparison of Male and Female Mean EIR Scores
 Source: Field survey, 2025

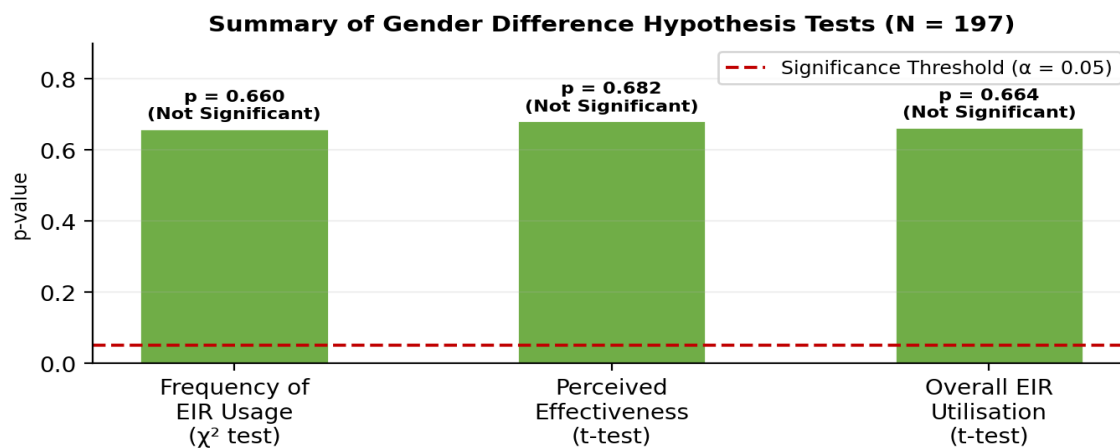


Figure 4: Summary of Gender Difference Hypothesis Tests
 Source: Field survey, 2025

6. Conclusion and Recommendations

The research investigated the influence of gender difference on the use of electronic information resources (EIRs) by undergraduates in the University of Ilesa, Osun State. The results showed that undergraduates use EIRs at a high rate for their academic activities, which means that students do use digital resources actively in conducting researches and assignments, as well as in self directed learning. Notably, the researchers did not establish significant variations in frequency of use, perceived effectiveness, and overall utilisation of electronic resources between male and female students. These findings indicate that gender has no significant effect on the ways in which the undergraduates of the University of Ilesa access, utilise, or perceive the value of electronic information resources. This suggests that equally male and female students can use EIRs to achieve academic success, which probably can be attributed to the positive changes in digital literacy, access to ICT infrastructure resources in an equal manner, and institutional support.

These conclusions are, however, bounded by the sampling frame of this study, which was limited to registered library users. The generalisability of findings to the broader undergraduate population, including students who do not use the library, remains uncertain. Based on the findings, the following recommendations are proposed. Universities should provide ongoing training and orientation programmes for students to improve their skills in using electronic information resources. Institutions should continue to invest in reliable ICT facilities, including high speed internet access, functional computer laboratories, and digital libraries. Although the study found no significant gender differences, it remains important to ensure equitable access to computers, e resources, and digital tools across all faculties and demographic groups. University libraries should strengthen helpdesk services, online guides, and peer assisted learning programmes. Regular assessments of EIR usage should be conducted to monitor trends, identify challenges, and develop strategies that enhance utilisation while addressing potential barriers.

7. Limitations of the Study

This study is subject to a number of limitations that should be considered when interpreting the findings. First, the sampling frame was restricted to registered library users at the University of Ilesa, representing only 4,163 of the total undergraduate population. Students who are not registered library users were excluded from the study. The study also adopted a single institution design, which limits the extent to which findings can be generalised beyond the University of Ilesa. The social, cultural, and institutional context of this university may differ in important ways from other Nigerian universities, particularly those in northern Nigeria where gender disparities in EIR use have been more consistently reported in the literature.

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