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Assessing Users' Satisfaction in a Digital Environment in Private Universities in the Bono East Region of Ghana

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ABSTRACT

The purpose of the study was to assess users' satisfaction with the digital environment in the Anglican University College of Technology and Valley View University. The internet has become an important tool to deliver products, information, and services. Thus, users' satisfaction is increasingly recognized as a significant aspect of online business activities and is considered a key determinant for successful digital services. The study adopted the quantitative research method with questionnaires as the main data collection instrument from students at Anglican University and Valley View University, employing the convenience sampling technique. The study revealed that Google Scholar was the most used platform due to free access and ease of use. At the same time, subscription-based databases were less utilized because of low awareness and limited training in advanced search skills. The findings also showed that the level of satisfaction in the digital environment was moderate, influenced positively by stable internet, ease of use, training, and mobile responsiveness. Some major barriers were also revealed from this study, which included slow internet, unstable electricity, limited search skills, low awareness of available resources, and lack of off-campus access, highlighting the need for infrastructure improvements and continuous training. Academic libraries, such as a university, have many units, such as the acquisition, processing, circulation, reference, periodicals/journals, computer and internet, and reprography units. The study recommends that the university management should collaborate with the head of the libraries to ensure mobile optimization of all library digital platforms for seamless smartphone and tablet use. Also, the establishment of a regular feedback and evaluation system by the university libraries to monitor satisfaction and guide improvements was recommended.

Keywords: User satisfaction, digital libraries, search engines, online databases, Valley View University, Anglican University College of Technology, Bono East region, Ghana

Introduction

The rapid growth of the Internet has significantly influenced the field of informatics by serving as a central platform for knowledge dissemination and data sharing. Researchers constantly explore new methods of delivering information effectively, while information engineers continue to develop improved systems and techniques to meet users' increasing demand for data access (Ojugo, 2018). The swift progress of information technologies, particularly cloud computing and storage, has transformed how digital libraries

function. These innovations allow libraries to provide remote access to diverse and distributed information sources, making it possible for users to retrieve materials without being limited by physical storage locations (Xu & Du, 2019). Consequently, the range of accessible information has expanded, and services have become more resilient since data can be backed up across multiple storage points, minimizing risks of data loss.

User satisfaction with digital libraries, however, remains a complex issue shaped by several factors. These include the functionality and design of platforms, the relevance of available materials, and the efficiency of search and discovery tools. Individual user expectations and prior experiences also play a role; some users may value simplicity in interface design, while others prefer advanced features and customization (Soltani-Nejad et al., 2020; Xie, 2008). For this reason, administrators must carefully study user experiences to enhance service delivery and improve library usability. Gathering feedback and continuously upgrading tools and resources ensures that digital libraries remain effective, reliable, and user-centered. The continuing rise of Internet usage globally has heightened scholarly interest in digital platforms and search technologies. Among these, Google remains dominant due to its extensive index, high performance, and ability to consistently introduce innovative services. Libraries worldwide have also undergone major transformations as a result of advancements in information and communication technologies (ICTs). Traditional library models are increasingly being replaced by digital library systems, which integrate computing infrastructure, storage, and communication tools to provide digital services such as online catalogues, databases, and virtual reference platforms (Masrek & Gaskin, 2016). In this evolving landscape, electronic resources (e-resources) have become central to modern library services. E-resources refer to information materials presented in digital formats, including electronic books, journals, online databases, OPACs, CD-ROMs, internet-based resources, and other forms of digital publishing. Their inclusion enhances efficiency in meeting users' diverse information needs while promoting accessibility and convenience (Aravind, 2017).

Problem Statement

The rapid advancement of digital technologies has transformed educational environments, enabling universities to deliver teaching, research, and academic support through various digital platforms. In Ghana, particularly in private universities, the digital environment plays a pivotal role in academic life. However, the effectiveness of these systems largely depends on how users, students, and staff interact with and perceive them. Despite increased investments in digital infrastructure, user satisfaction remains an understudied area, especially in regions such as Bono East, where private institutions like Valley View University and Anglican University operate. Online academic databases are essential tools for research and academic development. However, in many African universities, including Ghanaian private institutions, the usage patterns of such databases are not well documented. While some global databases like Google Scholar are widely used due to ease of access, institutional databases (e.g., JSTOR, EBSCO host, ScienceDirect) are often underutilized, either due to lack of awareness or limited training Dadzie (2005) and Pwadura (2018). There is a gap in data regarding which databases are most frequently used in Valley View and Anglican Universities. Without this knowledge, institutions may be investing in resources that are poorly aligned with user preferences and needs. Davis (1989) emphasizes that the satisfaction users gain from digital platforms is not solely based on content but also on elements like system accessibility, user-friendliness, adequate training, and reliable IT support. In the context of developing countries, infrastructural limitations, unstable internet, and lack of integration between learning platforms

and curriculum also affect satisfaction levels Komani (2021). However, specific evidence from Valley View and Anglican Universities is lacking.

Without a context-specific understanding of what enhances or limits satisfaction, efforts to improve digital environments may be ineffective or misdirected. In higher education, the effectiveness of digital environments is often assessed through the level of satisfaction they provide to users. It reflects how well systems meet the academic and technical needs of students and staff (Oliver, 2018). Previous studies have indicated mixed levels of satisfaction in Ghanaian universities, citing factors such as unreliable internet, system downtime, and lack of digital literacy as major concerns Omekwu et al. (2012). However, data from the Bono East region—especially from Valley View and Anglican University is insufficient. Although digital databases hold significant potential, their adoption is hindered by a range of challenges including poor search skills, lack of access, weak infrastructure, and minimal user support Chisita (2016); Nkosi (2021). Many students also express frustration due to unfamiliar database interfaces or difficulty retrieving relevant information. In Ghana, Dadzie (2007) found that even when databases are available, low awareness and lack of user training severely limit their usage. However, no comprehensive study has explored these barriers within Valley View and Anglican University.

Profile of the study area

The Anglican University College of Technology (ANG.U. TECH) belongs to the Anglican Communion in Ghana and was established in 2008. It has high-level Science and Technology Human Resource Formation accompanied by Holistic Development, Innovation Research and Extension Services ANG.U. TECH is mandated to deliver for the country. The University College, set up as a Multi-Campus University, will offer economically viable programs aimed at producing graduates who will contribute to the socio-economic development of the country.

Anglican University is an institution of Christian character, but it admits all students irrespective of their backgrounds and religious affiliations. The University College was launched on 29th March, 2008 at the Cathedral Church in Kumasi, more specifically Saint Cyprian's Anglican Church, under the distinguished patronage of Asantehene Otumfuo Osei Tutu II and then President of the Republic of Ghana His Excellency John Agyekum Kufour amongst other dignitaries. Prof. Marian Ewurama Addy, the first President of the University College, was officially inducted into office at this event following her appointment in January 2008. An international launch took place later in July of the same year at the University of Kent as a side event during a segment of the Lambeth Conference held in Canterbury, United Kingdom. The University College is under Kwame Nkrumah University of Science and Technology (KNUST). It is the first College of the University; the Agriculture and Life Sciences College situated at Nkoranza in Brong - Ahafo Region was put into use on 25th October 2013 to make way for admitting the first batch of students.

Valley View University traces its origins to 1979**,** when it was founded by the West African Union Mission of the Seventh-day Adventist Church. In 1997, it became part of the Adventist University system under the supervision of the Church's West-Central African Division, headquartered in Abidjan, Côte d'Ivoire. Since 1983, the Adventist Accrediting Association (AAA) has periodically reviewed and accredited the university's academic programs. That same year, Valley View began a partnership with Griggs University in Silver Spring, Maryland (USA), enabling it to offer degree programs in Theology and Religious Studies. In Ghana, the former National Accreditation Board granted the institution college status in 1997**,** authorizing it to confer its own degrees. A major turning point occurred in 2006**,** when the Government of

Ghana awarded Valley View University a Presidential Charter, making it the country's first private university to achieve full autonomy.

Today, the university welcomes both undergraduate and postgraduate students from various parts of the world. While it is founded on Christian values and principles, the university is open to all qualified applicants regardless of their religious affiliation, as long as they are willing to respect and live by its Christian-based values. The university's Techiman campus has an interesting history. It developed from the former Adventist Vocational Institute, which was later known as the Adventist Secondary Technical School. In 2009, Valley View University acquired the 256-acre land where the school was located, phased out the vocational programs, and converted the facility into a full university campus. The Techiman campus was officially opened on September 1, 2009, starting with an initial intake of 109 students. Valley View University continues to be owned and run by the Seventh-day Adventist Church (1979).

Objectives of the study

1. To find out the online databases websites that is frequently searched at the Anglican University and Valley View University libraries.
2. To explore the determinants of user satisfaction with digital environments and highlight areas requiring improvement in the Anglican University and Valley View University libraries.
3. To determine the level of users' satisfaction with the digital environment at the Anglican University and Valley View University libraries.
4. Challenges faced in using online databases at the Anglican University and Valley View University libraries.

Literature Review

Online Databases Frequently Searched in Anglican and Valley View Universities

Research indicates that academic users at private universities increasingly utilize both free and subscription-based online databases, but usage patterns often reflect accessibility, awareness, and functionality. Google Scholar remains the most frequently used due to its free access and intuitive interface. In Ghana, postgraduate students at institutions like KNUST report daily reliance on Google Scholar for literature searches Humphrey-Ackumey, (2015). Subscription databases such as ScienceDirect, JSTOR, EBSCOhost, Emerald, and PubMed are also available; however, studies show that fewer than 60% of students are aware of these resources, often due to insufficient orientation and promotion Adetsi (2025).

Awareness initiatives significantly impact usage. At a Ghanaian polytechnic, the introduction of tutorials and SMS reminders resulted in a doubling of institutional database usage within three months Yawson (2025). Despite subscription availability, many students rely on Google Scholar out of convenience, as formal training in advanced search strategies remains inconsistent Baayel, (2023).

Device compatibility also affects usage: students who use smartphones prefer mobile-optimized platforms, reinforcing the need for responsive interfaces Mensah & Owusu (2022). Informal learning through peers often substitutes for formal instruction, leading to uneven database utilization Baayel (2023).

In Anglo-American contexts and across Sub-Saharan Africa, this pattern is consistent: Google Scholar leads initial queries, but deeper queries require subscription databases, which are underutilized without adequate user training Becker (2018). For Anglican and Valley View Universities, understanding which

platforms are most used directly informs subscription investment, user training needs, and interface design strategies, aligning with student preferences and discipline-specific requirements.

User satisfaction within digital academic environments is shaped by multiple factors, including perceived usefulness, ease of use, technical reliability, and the availability of support services. These elements are closely linked to the Technology Acceptance Model (TAM), which emphasizes that users are more likely to adopt and remain satisfied with a digital system when they find it useful and easy to use. Studies demonstrate a consistent link between these factors and user satisfaction (Davis, 1989). In Ghana, students identify stable internet speeds, intuitive interfaces, and prompt response from IT and library staff as key drivers of satisfaction Agyekum (2012).

Research highlights the importance of digital literacy training: institutions offering systematic tutorials on advanced search and database navigation see usage and satisfaction rise significantly, with subscription database use increasing by 60% following training programs Adeoye & Adekeye (2023). Conversely, interruptions in internet access, system downtimes, or unresponsive platforms significantly reduce satisfaction; one 2024 study found that 50% of students reported moderate dissatisfaction due to such disruptions Omekwu et al. (2012).

Administrative support and service quality also play critical roles. Students at the University for Development Studies emphasized that campus facilities, including digital libraries, greatly shape overall satisfaction—an aspect that includes digital infrastructure equity Anunobi (2008). During the COVID-19 pandemic, investments in off-campus access, virtual consultations, and enhanced infrastructure supported sustained learning and elevated satisfaction levels Owusu-Acheaw, (2015).

Perceptions of trust and data privacy also affect satisfaction: users value platforms with clear privacy protocols and reliable performance (Bhattacherjee, 2014). Lecturer integration of digital tools in teaching further enhances satisfaction; students in blended learning environments consistently report higher satisfaction scores Effah & Mbroh (2015).

To improve user satisfaction at Anglican and Valley View Universities, recommendations include upgrading internet and platform reliability, delivering orientation/training programs, ensuring staff provide prompt support, protecting user privacy, and integrating digital tools into everyday teaching.

Level of User Satisfaction with the Digital Environment

Assessing satisfaction involves measuring whether systems meet or exceed user expectations. Literature demonstrates moderate to high satisfaction in Ghanaian institutions when digital systems offer usability, reliability, and strong support (Anunobi, 2008). A quantitative survey at the University for Development Studies during the COVID-19 pandemic found 70% of students felt comfortable with remote learning; however, 45% still preferred in-person experiences Owusu-Acheaw, (2015). This reflects conditional acceptance, depending on efficient system performance and reliable infrastructure.

A 2022 evaluation revealed that 71% of students were dissatisfied with lecture hall comfort and facilities indicating that satisfaction extends beyond digital tools to include learning environments Omekwu et al. (2012). Digital platform satisfaction is closely linked to performance and responsive IT support: universities with good support systems and mobile-responsive repositories reported over 80% satisfaction rates in institutional database usage Bhattacherjee (2014).

Despite significant IT investments, private universities continue to record only moderate satisfaction, with infrastructure and support services identified as key areas for improvement Agyekum & Filson, (2012). Anglican and Valley View Universities are likely to follow similar trends, where higher satisfaction correlates with better infrastructure, staff responsiveness, training, and bandwidth availability.

Evaluating user satisfaction across these dimensions will reveal strengths and weaknesses in the current digital setup, informing subsequent recommendations for device access, infrastructure deployment, and service quality improvements.

Challenges Faced Using Online Databases

Users experience several challenges when engaging with online databases. Poor internet connectivity and limited bandwidth are frequently cited issues, with a 2022 study reporting widespread slow access in digital repositories Anunobi (2008). At Ghana Communication Technology University, faculty noted difficulties downloading content from subscription platforms like Emerald and Taylor & Francis Agyekum & Filson (2012).

Digital literacy barriers also persist: postgraduate students at the University of Cape Coast had awareness of e-resources but lacked advanced search skills, which limited their effective use Nkosi & Mchombu (2014). Insufficient training programs drive reliance on informal peer-to-peer learning, perpetuating uneven database engagement Nkosi & Mchombu (2014). Staffing shortages, particularly in systems librarians, further limit database access and technical support availability Agyekum & Filson (2012).

Power outages are another major constraint: 46% of Ghanaian universities reported unstable electricity as a factor affecting access to digital resources and online databases Chisita, (2011). While solutions like backup generators exist, they raise operational costs and may still create access bottlenecks Chisita (2011). Interface limitations—such as lack of mobile compatibility—impede effective access, while reliance on specialized staff discourages autonomous use Almarabeh & Mohammad (2014). Privacy concerns and restricted off-campus access were also noted, albeit less frequently Bhattacherjee (2014).

To address these challenges at Anglican and Valley View Universities, strategic interventions should include developing reliable internet infrastructure, expanding digital literacy programs, hiring systems librarians, ensuring consistent power supply, optimizing mobile access, and reinforcing data privacy and off-campus login mechanisms.

METHODOLOGY

A descriptive cross-sectional study was employed to examine the characteristics of the study variables within a specific period. This design allows data to be gathered at a single time, providing snapshot of the current state of user's satisfaction level in digital environment. It has also enabled the researcher to describe and quantify the user satisfaction level in digital environment in numerical values. The population of the study consisted of students who regularly interact with the digital services of Anglican University College of Technology, Nkoranza and Valley View University, Techiman libraries. The target population for the study consisted of 58 students who accessed the libraries of the two institutions between January and March 2025, as indicated in the library records. To determine the sample size, Yamane's formula was applied:

n=N1+N(e2) n = \frac{N}{1 + N(e^2)} n=1+N(e2) N . A non-probability sampling technique was adopted for the study, specifically the quota sampling method**,** to recruit participants from the two universities. The study area was divided into strata based on the universities, and within each stratum, participants were selected using the convenience sampling technique**.** This process continued until the required quota of 25 participants from each university was obtained. where n is the sample size, N is the population size, and e is the margin of error.

The primary instrument for data collection was a structured questionnaire**,** carefully designed to assess users' satisfaction levels across key indicators. Data collected were scrutinized and incoherencies dealt

with. Microsoft Excel version 2019 was used to design simple databases for entering data collected from field. The data were presented in frequency tables and charts (bar graph, pie chart).

FINDINGS AND DISCUSSION

Socio-demographic characteristics

Table 1 present a summary of the respondents' socio-demographic characteristics. The largest proportion of respondents were aged 18–24 years (23, 46.0%), followed by those aged 25–30 years (14, 28.0%). The majority were male (30, 60.0%), and most were undergraduates (30, 60.0%). In terms of programme of study, BSc. Nursing had the highest proportion (29, 58.0%), while 71.7% are pursuing their programmes for 3–4 years duration. The 50 respondents are equally divided by the two universities.

Table 1: A Frequency distribution of table showing respondents by socio-demographic characteristics (N = 50).

VARIABLES	Frequencies(n)	Percentages (%)
Age categories		
Under 18	12	24.0
18-24	23	46.0
25-30	14	28.0
31 and above	1	2.0
University		
Valley View	25	50.0
Anglican University	25	50.0
Gender		
Male	30	60.0
Female	20	40.0
Level of study		
Diploma	1	2.0
Undergraduate	30	60.0
Postgraduate	19	38.0
Programme		
Physician Assistantship	21	42.0
BSc. Nursing	29	58.0
Duration		
<1yr		
1-2yrs	12	24.0
3-4yrs	38	76.0
>4yrs		

Source: Field Survey, 2025.

Online databases and frequency of use

Figure 1 is a bar graph showing the online academic databases frequently used by respondents. From the

data, the most frequently used database is Google Scholar, reported by 36.0% (18 respondents), followed by PubMed with 24% and JSTOR with 10.0%, while Springer and ResearchGate were the least used, with 2% (1 respondent) each.

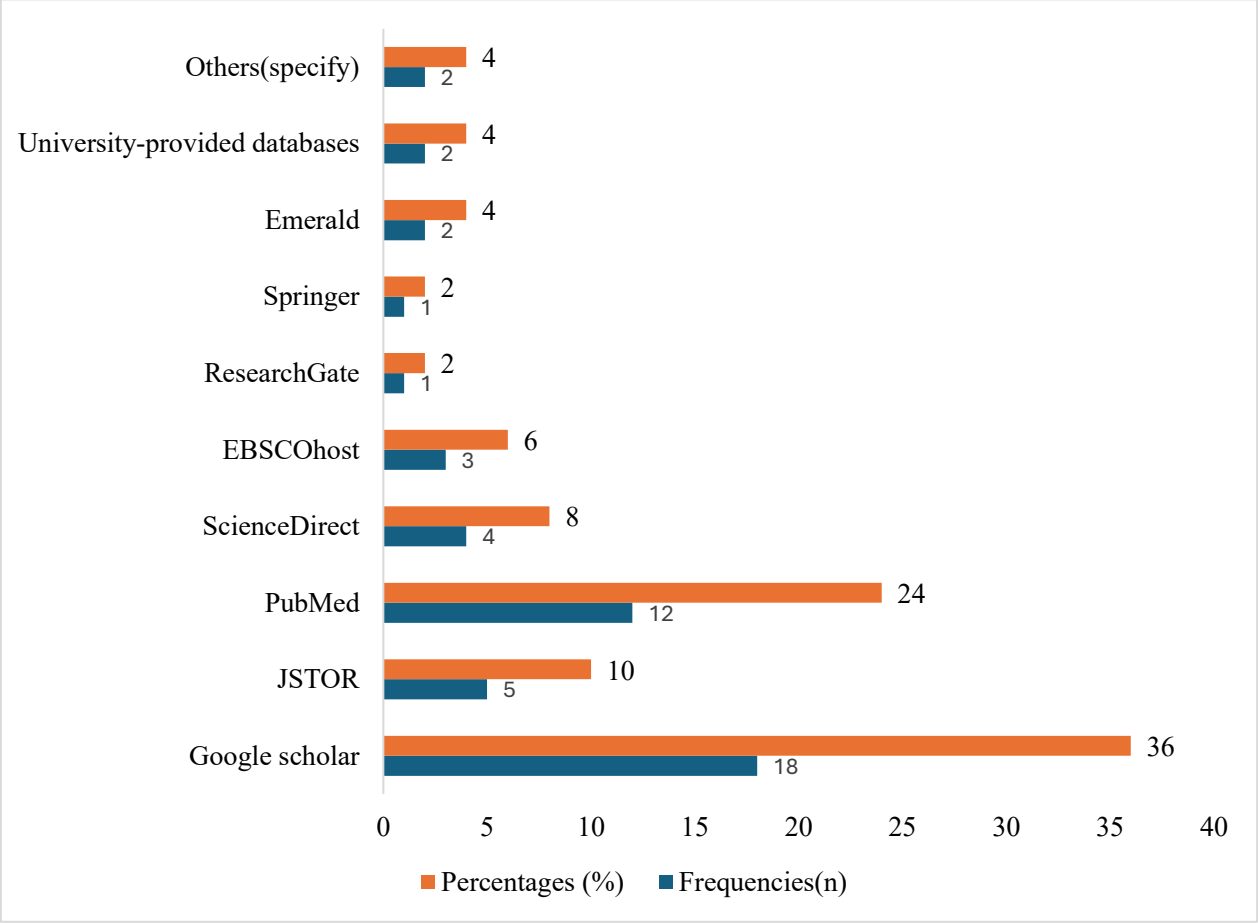

Figure 1:A bar graph showing online databases used by respondents (N=50).
Source: Field Survey, 2025.

Table 2 presents data on the frequency of use, place of access, and perceived ease of access to online databases. The majority reported accessing online databases daily (40.0%), followed by 2–3 times a week (32.0%). More than half of the respondents usually accessed databases from the on-campus library (54.0%), while smaller proportions used cyber cafés (14.0%), hostels (12.0%), homes (8.0%), and mobile phones (8.0%). Regarding ease of access, the largest proportion indicated that it was difficult (54.0%), while only 4.0% found it very easy. The findings indicated a moderate satisfaction level among respondents. While most appreciated the availability of digital resources and platforms, limitations such as intermittent internet connectivity, insufficient off-campus access, and occasional slow platform response times tempered their enthusiasm. The findings aligns with studies such as Owusu-Acheaw and Larson (2015), who found that 70% of Ghanaian university students were comfortable with remote learning during the COVID-19 pandemic, yet many still preferred in-person learning due to infrastructural inconsistencies. Similarly, Anunobi and Okoye (2008) concluded that satisfaction levels in digital academic environments are highly conditional upon infrastructure reliability and adequate support services.

The study also found that supportive staff interactions and mobile-responsive systems improved satisfaction scores, echoing (Bhattacherjee, 2014).who highlighted trust and performance reliability as core satisfaction predictors. Nonetheless, moderate satisfaction implies that improvements are still needed in bandwidth allocation, off-campus authentication mechanisms, and periodic system upgrades.

Table 1: A frequency distribution table showing frequency of use, place of access and rate of ease of access of these online databases (N=50).

VARIABLES	Frequencies(n)	Percentages (%)
How often do you access online databases		
Daily	20	40.0
2-3 times a week	16	32.0
Weekly	10	20.0
Rarely	4	8.0
Where do you usually access database		
On-campus library	27	54.0
Hostel	6	12.0
Home	4	8.0
Cyber café	7	14.0
Mobile phone	4	8.0
Emerald	2	4.0
Rate of ease of access to online database		
Very easy	2	4.0
Easy	8	16.0
Neutral	11	22.0
Difficult	27	54.0
Very difficult	2	4.0

Source: Field Survey, 2025.

Factors contributing to user satisfaction

Table 3 presents data on factors contributing to user satisfaction among respondents. Most respondents (76.0%) reported that they do not frequently access online databases. A majority indicated the absence of adequate IT support when encountering challenges (70.0%), and most found the university's website not easy to use or navigate (68.0%). Similarly, 72.0% lacked access to e-learning platforms such as Moodle or LMS, and 66.0% reported that digital library services were not available or easy to access. In contrast, over half (62.0%) stated that lecturers and staff make use of digital tools in teaching. Two-thirds (70.0%) indicated that they had not received any training or orientation on using the university's digital platforms.

Table 2: A frequency distribution table showing factors contributing to user satisfaction among respondents (N=50).

VARIABLES	Frequencies(n)	Percentages (%)
How often do you access online databases		
Yes	12	24.0

No	38	76.0
Do you receive adequate IT support when you encounter challenges		
Yes	15	30.0
No	35	70.0
Is the university's website easy to use and navigate		
Yes	16	32.0
No	34	68.0
Do you have access to e-learning platforms such as Moodle or LMS		
Yes	14	28.0
No	36	72.0
Are digital library services available and easy to access		
Yes	17	34.0
No	33	66.0
Do lecturers and staff make use of digital tools in teaching		
Yes	31	62.0
No	19	38.0
Have you received any training or orientation on using the digital platforms provided by the university		
Yes	15	30.0
No	35	70.0

Source: Field Survey, 2025.

The study revealed that Google Scholar emerged as the most frequently accessed online resource among respondents, followed by subscription-based platforms such as JSTOR, ScienceDirect, and EBSCOhost. However, usage of the subscription databases was relatively low compared to freely accessible platforms. Several respondents attributed their preference for Google Scholar to its free access, ease of use, and lack of institutional login requirements. These findings are consistent with Pew (2022), who reported that postgraduate students in Ghana, particularly at KNUST, relied heavily on Google Scholar for daily literature searches. Similar patterns were observed in Baayel (2023), who noted that formal training in advanced search strategies remained inconsistent, leading to a tendency toward free, general-purpose search engines over specialized databases. The study also identified that awareness levels of institutional subscriptions were not universal. Many students were unaware that databases like Emerald, EBSCOhost, and PubMed were available through the university library systems. This aligns with Adetsi and Ocloo (2025), who found that fewer than 60% of students at Ghanaian universities knew about all the subscription databases their libraries offered. Device preference influenced database usage. Most students accessed resources through smartphones, reinforcing the need for mobile-optimized platforms. This observation echoes the findings of Mensah and Owusu (2022), who reported a 25% increase in database access when mobile-friendly interfaces were introduced. The implications are significant for both

universities: subscription investments may not yield maximum benefits without targeted awareness campaigns, training on advanced search skills, and responsive platform designs.

CHALLENGES

Figure 2 presents a bar graph illustrating the specific challenges encountered by respondents when using digital resources or platforms at the university. The most frequently reported challenge was slow internet connection, cited by 19 respondents, representing 38%. This was followed by lack of awareness about digital resources at 18%. Other reported challenges included inadequate training on usage of online platforms 10% and limited access to computers reported by 8% of the respondents. Overall, the findings indicate that technical limitations, particularly slow internet speed, along with low awareness and accessibility constraints, constitute the major barriers to effective utilization of digital resources among students.

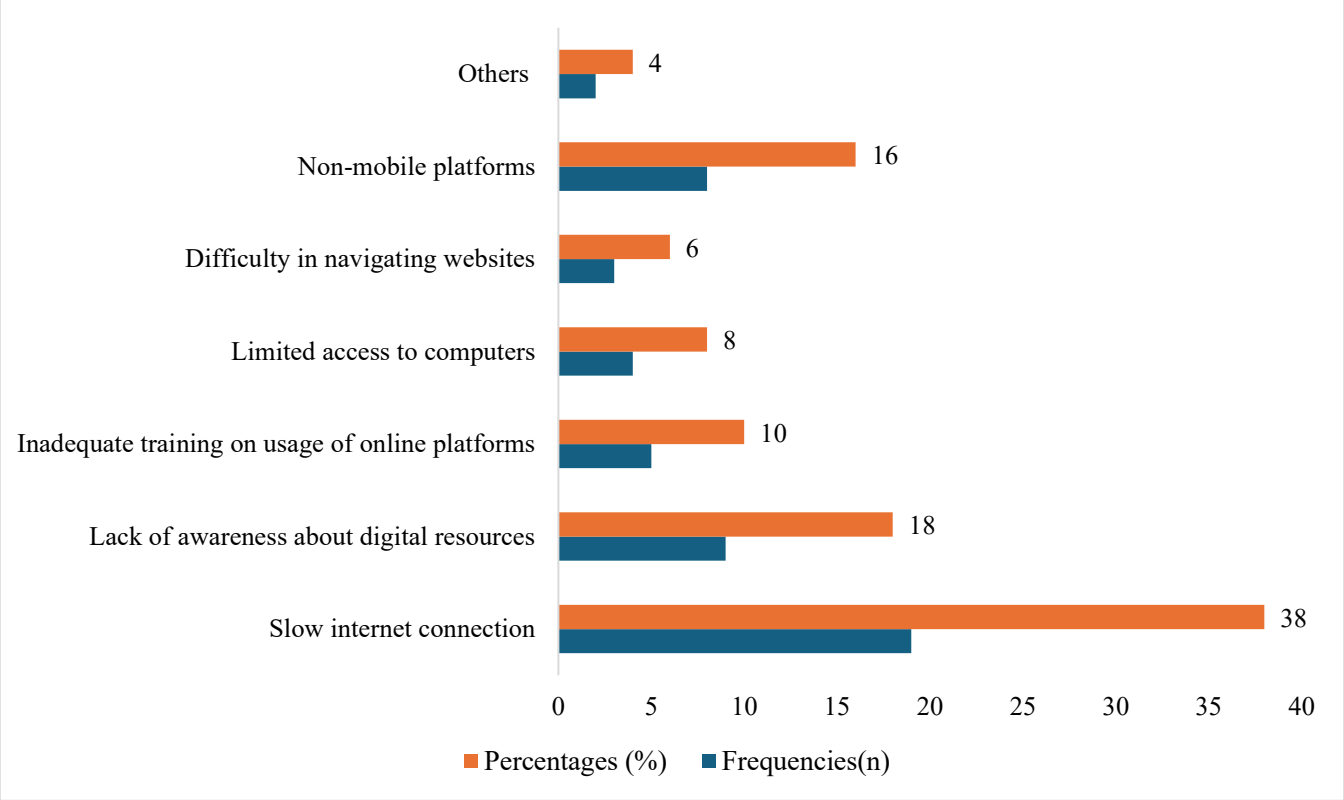

Figure 2: A bar graph showing challenges faced by respondents (N=50).
Source: Field Survey, 2025.

Level of user satisfaction

Figure 3 shows a pie chart illustrating the distribution of responses to the question, "How satisfied are you with the digital environment of your university?" among 50 respondents. The results indicate that the largest proportion, 22 respondents (44%), reported being satisfied, while 9 respondents (18%) were neutral. An equal number of respondents, 9 (18%), expressed being dissatisfied, whereas 6 respondents (12%) were very satisfied, and 4 respondents (8%) reported being very dissatisfied. Overall, the findings suggest that while satisfaction levels are generally positive, a notable minority remains dissatisfied.

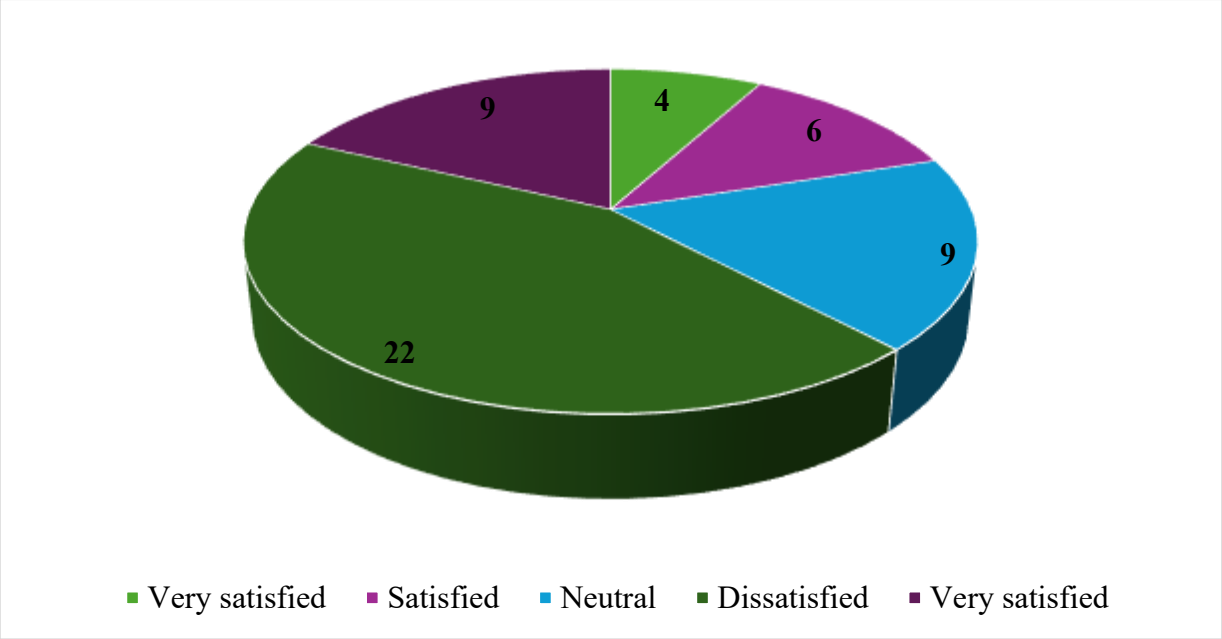

Figure 3: A pie-chart illustrating level of user satisfaction by respondents (N=50). Source: Field Survey, 2025.

The study found that stable internet connectivity, platform reliability, ease of use, and availability of prompt technical support were the most influential factors driving satisfaction. Respondents expressed higher satisfaction when systems loaded quickly, interfaces were intuitive, and help was available both physically and virtually.

In line with Agyekum and Filson (2012), the study confirms that digital academic satisfaction in Ghana depends largely on reliable internet services and prompt IT support.

Furthermore, the study showed that training sessions and orientation programs significantly enhanced user confidence and satisfaction levels. This supports Adeoye and Adekeye (2023), who observed a 60% increase in subscription database use following targeted training. However, occasional downtime and slow connection speeds during peak usage hours were noted as sources of dissatisfaction, reflecting similar reports by Omekwu et al. (2012) that such technical interruptions can reduce satisfaction by up to 50%.

Another emerging factor was lecturer involvement—students who experienced lecturers integrating online databases and e-resources into teaching were more satisfied with the digital environment. This agrees with Effah and Mbroh (2015), who found that blended learning approaches positively influenced digital resource utilization.

Table 4 presents data on the accessibility and nature of internet connection as experienced by respondents. Most respondents (68.0%) reported not having easy access to digital academic resources such as e-books, databases, and journals. Similarly, 60.0% indicated that the university's website was not functional or easy to use for academic purposes. A majority (66.0%) stated that the campus Wi-Fi or internet was unreliable for academic use, and 68.0% reported that online lectures and virtual classrooms were not easily accessible or functional.

Table 3: A frequency distribution table showing accessibility and nature of internet connection as experienced by respondents (N=50).

Variables	Frequencies(n)	Percentages (%)
Do you have easy access to digital academic resources (e.g., e-books, databases, journals)		
Yes	16	32.0
No	34	68.0
Is the university's website functional and easy to use for academic purposes		
Yes	20	40.0
No	30	60.0
Is the Wi-Fi or internet on campus reliable for academic use		
Yes	17	34.0
No	33	66.0
Are online lectures and virtual classrooms easily accessible and functional		
Yes	16	32.0
No	34	68.0

Source: Field Survey, 2025.

The pie chart in Figure 4 presents the main issues experienced with Wi-Fi or internet among the 50 respondents. The majority of participants, 29 representing 58.0% reported that the internet frequently disconnects, making it the most common problem. This was followed by 34.0% who indicated that the internet is too slow. A smaller proportion (8.0%) reported that the internet is unavailable in some areas. This distribution suggests that connection stability is a more pressing concern than speed or availability in the study population.

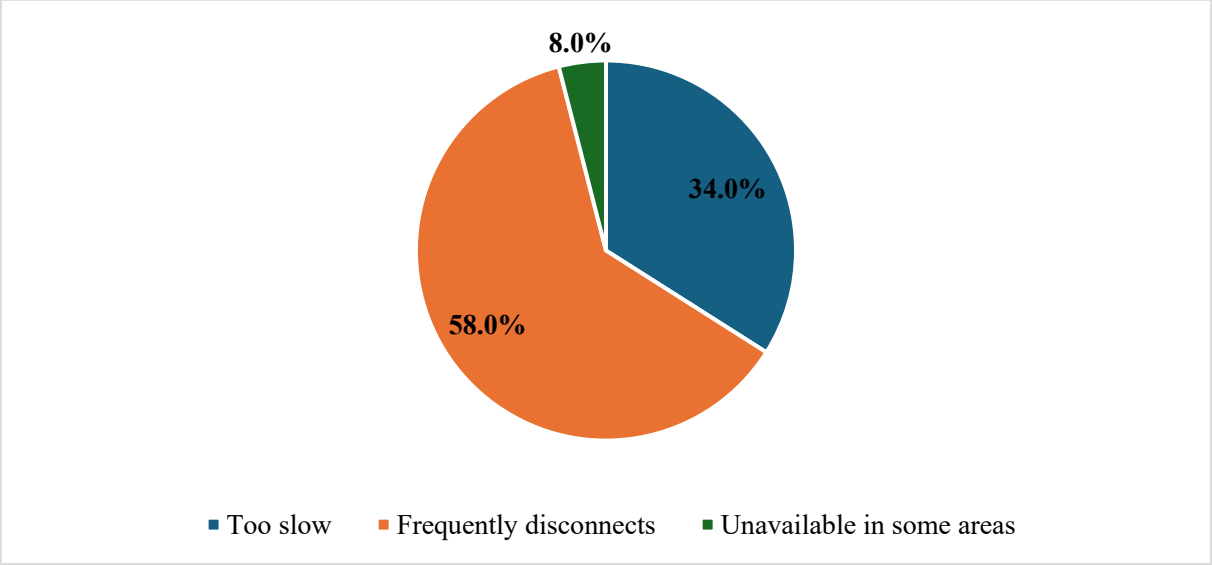

Figure 4: A pie-chart illustrating the main issues with internet or Wi-Fi (N=50).
Source: Field Survey, 2025.

Challenges faced in using online databases

The bar graph in Figure 5 illustrates whether respondents experience challenges in using online databases. Out of the total 50 respondents, 42 individuals, representing 84.0%, reported that they do experience challenges, while 8 respondents, constituting 16.0%, indicated that they do not face such challenges. This suggests that the majority of the participants encounter difficulties when using online databases.

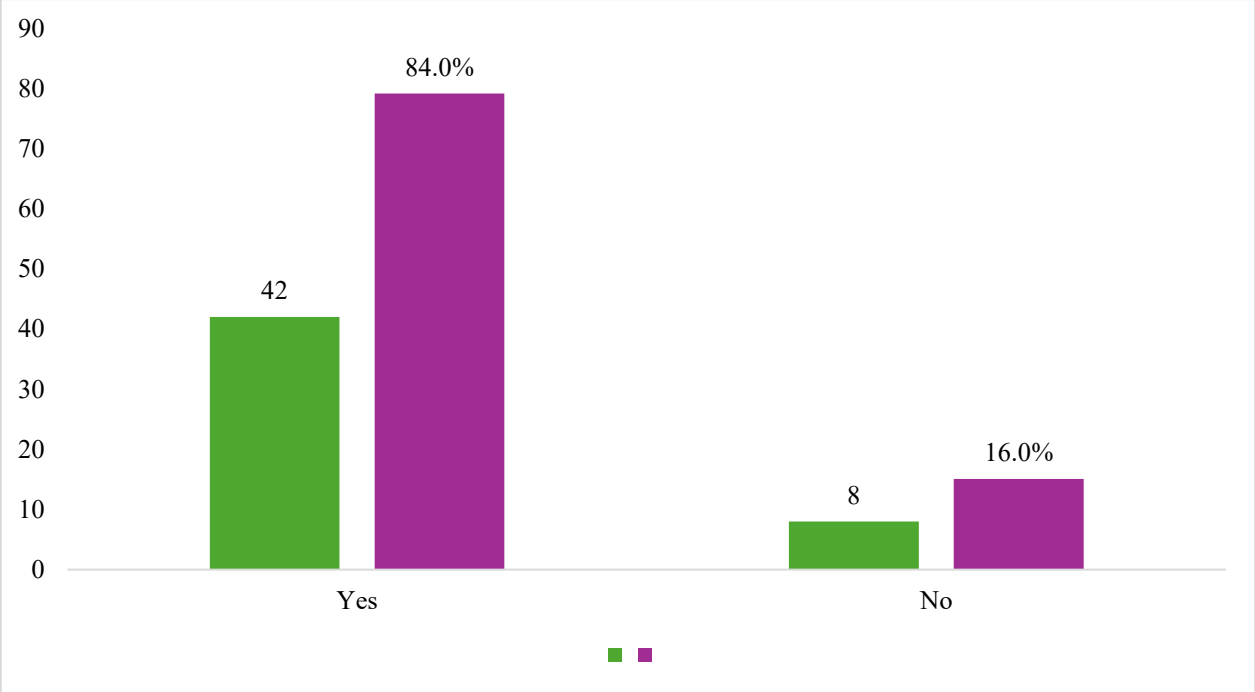

Figure 5: A bar graph showing whether or not respondents experience challenges in using online databases (N=50).
Source: Field Survey, 2025.

The bar graph in Figure 6 presents the main challenges faced by the 50 respondents in accessing or using the library systems and resources. The most frequently reported challenge was slow internet speed, mentioned by 32 respondents (16%), followed by login/access issues, reported by 18 respondents (9%). Other challenges included a limited number of databases subscribed by the library (6 respondents, 3%), lack of support from library/IT staff (4 respondents, 2%), and not knowing how to use the resources (2 respondents, 1%). A small number (2 respondents, 1%) cited other unspecified challenges. Overall, the data highlight that connectivity and access-related issues were the most significant barriers for respondents.

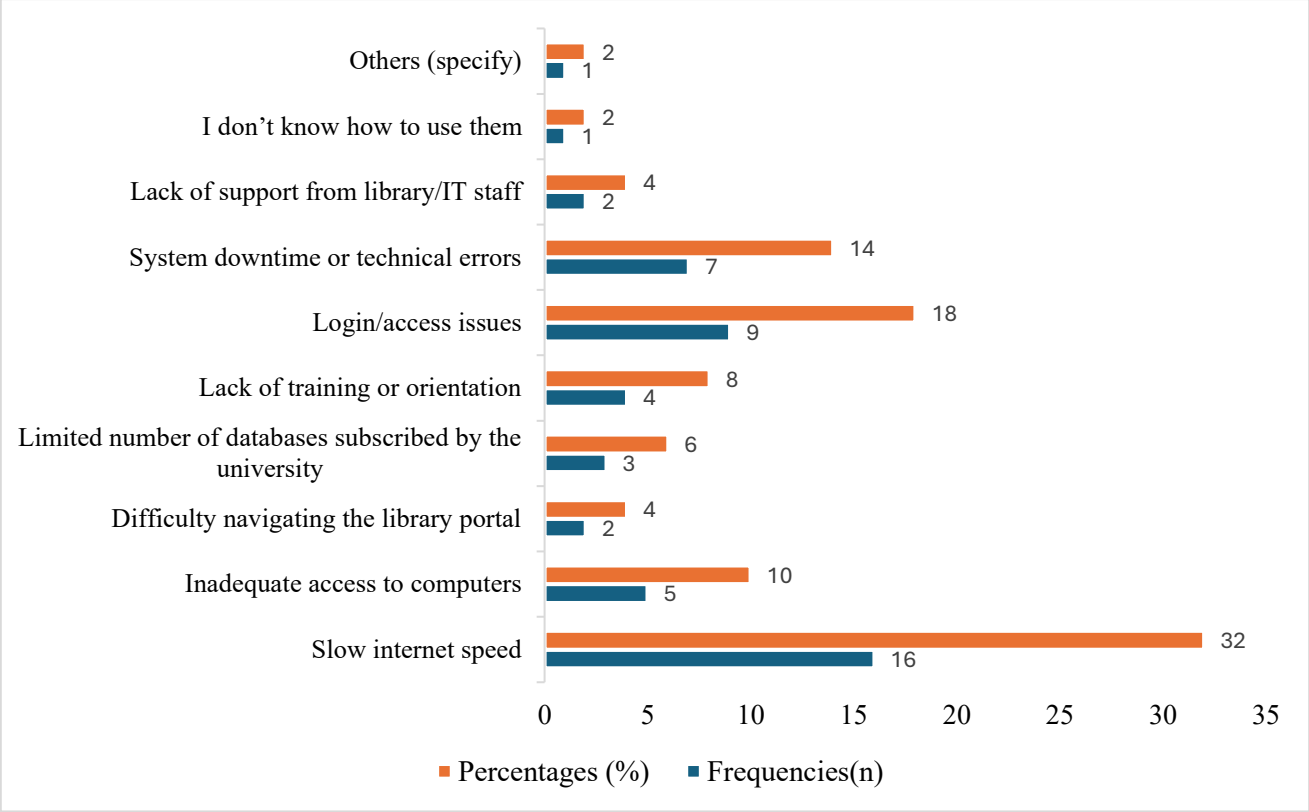

Figure 6: A bar graph illustrating the main challenges faced by respondents (N=50). Source: Field Survey, 2025.

Table 5 shows the severity of the effects of challenges on respondents' academic work. Most respondents (40.0%) indicated that the challenges affected them moderately, while 24.0% reported being affected slightly. Additionally, 16.0% reported that the challenges affected them very much, and 8.0% said they were extremely affected. A smaller proportion (12.0%) stated that the challenges did not affect their academic work at all.

Table 4: A frequency distribution table showing the severity of effect of the challenges affecting academic work (N=50).

VARIABLE	Frequencies(n)	Percentages (%)
On a scale of 1–5, how severe are these challenges in affecting your academic work	16	32.0
Not at all	6	12.0
Slightly	12	24.0
Moderately	20	40.0
Very	8	16.0
Extremely	4	8.0

Source: Field Survey, 2025.

The most frequently cited challenges were slow internet speeds, unstable electricity supply, lack of advanced search skills, and insufficient awareness of available resources. These issues mirror those

identified by Agyekum and Filson (2012) and Chisita (2011), who reported that poor infrastructure, including unstable electricity, remains a barrier to digital resource access in many African universities. Many respondents also expressed difficulty navigating subscription databases, indicating a need for continuous training in database search strategies. Similar observations were made by Nkosi and Mchombu (2014), who noted that awareness without adequate skill development results in suboptimal usage. Another challenge was the lack of off-campus access to some subscription resources, which limits research continuity outside the university's physical premises. While privacy and data protection were not major concerns for most respondents, they were still mentioned, aligning with Bhattacherjee (2014) on the importance of secure systems. Addressing these challenges will require a multi-pronged approach, including infrastructural investment in faster internet and power backup systems, consistent user training programs, proactive resource promotion, and improved remote access systems.

Conclusion

This study demonstrates that Anglican University and Valley View University libraries have made significant progress in providing digital resources, yet patterns of use show a clear dominance of freely accessible platforms like Google Scholar over subscription-based databases. While most users expressed moderate to high satisfaction with the digital environment, limitations in awareness, technical infrastructure, and advanced search skills remain barriers to optimal use.

Stable internet connectivity, platform reliability, ease of navigation, and prompt technical support emerged as key satisfaction drivers, consistent with established literature. Addressing infrastructural constraints, promoting awareness of subscription resources, and integrating database use into teaching can significantly enhance digital resource utilization. These improvements will strengthen the role of the libraries as essential academic support systems and align them more closely with user expectations in an increasingly digital academic environment.

Recommendations

1. The university's libraries should implement regular awareness campaigns to promote subscription-based databases and integrate the use of online databases into teaching and coursework to encourage active use.
2. The heads of academics in the two universities should conduct structured training workshops on advanced search techniques and database navigation.
3. The university's management should also upgrade the internet infrastructure to provide stable, high-speed connectivity on campus.
4. The university's management, in collaboration with the head of the libraries, should ensure mobile optimization of all library digital platforms for seamless smartphone and tablet use.
5. Finally, the two universities should establish a regular feedback and evaluation system to monitor satisfaction and guide improvements.

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