THE SCIENTIFIC TEMPER (2025) Vol. 16 (12): 5258-5266

E-ISSN: 2231-6396, ISSN: 0976-8653

Doi: 10.58414/SCIENTIFICTEMPER.2025.16.12.13

https://scientifictemper.com/

RESEARCH ARTICLE

E-Resource Utilization Among Kuwait University Faculty: an Analytical Study

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This study explores the electronic resources usage patterns, awareness levels, and challenges associated with e-resources among 1,128 academic respondents across various designations and experience levels in Kuwait Universities. The results reveal a high level of engagement, with 42% accessing e-resources daily and 99.20% utilizing them for research purposes. Assistant Professors formed the majority of respondents, and most had 7 to10 years of teaching experience. While platforms like DOAJ, Google Scholar, and Shodhganga showed high awareness, others such as BASE Search and Highwire were less known. Despite the advantages of time efficiency, space saving, and accessibility, users faced significant barriers including poor network connectivity, power fluctuations, and information overload. Satisfaction levels were notably high, with 89.10% of respondents expressing strong approval. The study underscores the need for improved infrastructure, targeted training, and broader awareness to enhance the effective use of e-resources in academia.

Keywords: E-resources, Academic Usage, Digital Literacy, Open Access, Awareness Level, Barriers, Infrastructure Challenges, User Satisfaction

Introduction

The rapid expansion of digital technology has led to a transformation in information access, significantly influencing how academic and professional users engage with knowledge. Traditional libraries, once the primary sources of information, have increasingly integrated digital platforms to enhance accessibility and efficiency (Brown & Green, 2020). Virtual libraries, offering e-books, journals, databases, and multimedia content, provide users with the ability to retrieve information from anywhere, overcoming geographical and physical limitations (Patel, Kim, & Zhao, 2022).

The shift from print to digital resources has been driven by several factors, including technological advancements, increasing academic demands, and the need for convenient access to information (Zhang, Chen, & Singh, 2021). Institutional support plays a crucial role in enabling users to navigate and effectively utilize virtual libraries. However, challenges such as digital literacy gaps, inadequate infrastructure, and inconsistent institutional policies may hinder e-resource adoption (Gomez, 2021). This study aims to explore patterns of e-resource dependence, the demographic factors influencing usage, and the level of institutional support provided to users. By examining these aspects, this research seeks to offer insights that can guide improvements in virtual library services and policies.

Review Of Related Literature

Virtual Libraries and Digital Transformation

Virtual libraries have become essential tools in modern education. Research by Zhang et al. (2021) highlights their role in expanding information accessibility. Studies suggest that digital literacy and institutional infrastructure significantly impact e-resource effectiveness (Brown & Green, 2020).

E-Resource Adoption and Utilization

A study by Patel et al. (2022) found that 78% of students increased e-resource usage due to improved digital

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How to cite this article: Parameswari, P.L., Amsaveni, N., Marimuthu, V. (2025). E-Resource Utilization Among Kuwait University Faculty: an Analytical Study. The Scientific Temper, **16**(12):5258-5266.

Doi: 10.58414/SCIENTIFICTEMPER.2025.16.12.13

Source of support: Nil

Conflict of interest: None.

Received: 14/11/2025 **Accepted:** 30/11/2025 **Published:** 25/12/2025

platforms. Similarly, Wright (2021) emphasized the importance of institutional support in enhancing e-resource accessibility.

Barriers to E-Resource Utilization

Despite their advantages, e-resources present challenges, including limited digital literacy, lack of training, and inconsistent institutional support (Gomez, 2021). Addressing these barriers is essential for optimizing virtual library services.

Methodology

The Research Design of this study is having Mixed methods approach (quantitative + qualitative) This study employs a quantitative survey design, analyzing responses from 1128 participants across various universities in Kuwait.

Data Collection

The survey method (online Google form) is adapting for this study to targeting sample respondents academic faculty across major Kuwaiti universities to collect necessary data based on e-reources usage frequency, types of e-resources used, dependency level, and challenges. Also in some faculty had provided data through Interviews with selected faculty members to gain deeper insights into challenges and opportunities.

Data Analysis

Categories the two types of data, such that Quantitative data and Qualitative data. The quantitative data focused the Descriptive statistics, usage pattern analysis, chi-square and ANNOVA tests. The qualitative data focused the thematic analysis for challenges and opportunities.

Sampling

Stratified sampling across subjects with various universities from Kuwait.

Limitation

The sample data selected university faculty from Kuwait. The structured questionnaire was distributed to target sample. The data was collected during the academic year of 2024 to 2025. Out of 16, only 11 universities were selected for this study. The 11 universities were selected based on highest research publications. 150 questionnaires were distributed each university June 2025. Out of 1500 questionnaires, 1128 questionnaires were received after eliminating the incomplete and irrelevant. Some of the respondents refused to filled the questioned due to the lack of time for their busy schedule.

Objectives

- To identify and analyze the patterns of e-resource usage among academic faculty in Kuwaiti universities.
- To investigate the challenges faced by academic faculty in accessing and utilizing e-resources effectively.
- To explore opportunities for improving e-resource accessibility, awareness, and training for academic faculty in Kuwait.
- To analysis the SWOT for accessing E-Resources

Problem of Statement

The E-Resources have become integral to academic activities such as teaching, research, and administration. However, in Kuwait, there is limited empirical data on how academic faculty depend on these digital materials, their usage patterns, and the challenges they face. This study aims to fill this gap by investigating the extent and nature of e-resource usage among academic faculty in Kuwait, highlighting associated challenges and potential opportunities for improvement.

Data Analysis And Interpretation

Most private universities in Kuwait are accredited by Kuwait's Private Universities Council (PUC). Degrees from public institutions like KU are widely recognized internationally. Many universities follow U.S., U.K., or Australian curricula models. Programs are offered in English or Arabic, depending on the institution.

The collected sample data was analysed using with the help of Microsoft Excel and presented in tabular and graphical forms.

The sample data provides the demographic details was collected as part of the questionnaire regarding the gender composition of individual who utilize E-resources available through their respective libraries for various academic purposes. Table-1 presents the gender wise distribution by the sample respondents, the collected data indicates that approximately 54% were male and 46% were female.

Table 3 represents the academic status wise distribution of the selected respondents across the various professionals of higher education in Kuwait. 54.43% of respondents were the cadre of Assistant Professor indicated the majority users of digital information access. 19.5% of users are in the cadre of Guest Faculty, followed by 12.23% of users are in the cadre of Associate Professor, remaining user groups of Professor and Visiting professor were indicating least usage of electronic resources for their academic needs.

Table - 4 represents the years of teaching experience and academic progression by the sample respondents from Kuwait universities. 54% of respondents were having 7 to 10 years of teaching experience. Followed by 26.24% of respondents 11 to 15 years of teaching experienced faculty who made vital role of mentoring and guiding to researchers, 6.65% of them were have more than 15 years of academic experience. Only 2.84 % of them have less than 3 years of teaching experience. It could be identified half of the respondents were have 7 to 10 years of teaching experience. Table 5 reveals that the frequency of using e-resources by the selected respondents from Kuwait. 42.46% of

Table 1: Universities in Kuwait – Categorized

Name of Institution	*Type*	*Established*	*Programs Offered*	*Accreditation / Affiliation*	*Website*
Kuwait University (KU)	Public	1966	Arts, Science, Medicine, Engineering, Law, Business, Education, Pharmacy, Dentistry	Government of Kuwait; UGC-recognized (India)	ku.edu.kw
PAAET *(Public Authority for Applied Education and Training)*	Public	1982	Technical Education, Vocational Training, Applied Sciences	Government of Kuwait	paaet.edu.kw
Gulf University for Science & Technology (GUST)	Private	2002	Business, Computer Science, Mass Communication, Humanities	Affiliated with University of Missouri – St. Louis (USA)	gust.edu.kw
American University of Kuwait (AUK)	Private	2003	Liberal Arts, Business, Engineering, Social Sciences	Modeled after American higher education; U.S. partnerships	auk.edu.kw
American University of the Middle East (AUM)	Private	2007	Business, Engineering, Design, Liberal Arts	Accredited by Private Universities Council – Kuwait	aum.edu.kw
Australian College of Kuwait (ACK)	Private	2004	Engineering Tech, Business Administration, Maritime Studies	Affiliated with Australian partners	ack.edu.kw
Arab Open University – Kuwait Branch	Private/Open	2002	Education, IT, Business, English Language, Media Studies	Partnered with Open University UK	aou.edu.kw
Box Hill College Kuwait (BHCK)	Private (Women)	2007	Business, Design, Interior Decoration, IT	Affiliated with Box Hill Institute, Australia	bhck.edu.kw
Al-Maisan University College *(new)*	Private	—	Information Technology, Business	—	—

Table 2: Gender-wise Distribution of Respondents

Gender	*No. of respondents*	*%*
Male	609	53.99
Female	519	46.01
Total	1128	100

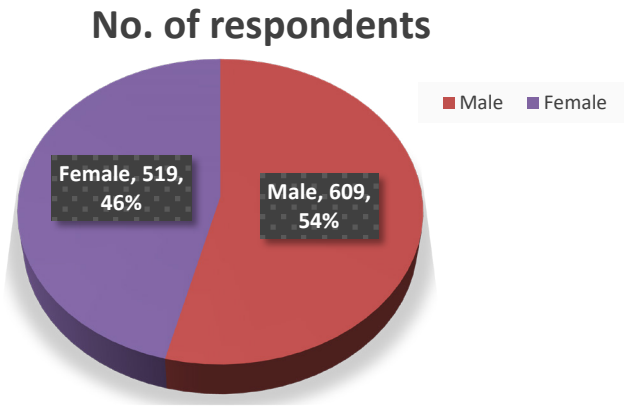

Figure 1: Gender-wise Distribution of Respondents

Table 3: Academic Status-wise Distribution of Respondents

Academic Status	*No. of respondents*	*percentage*
Professor	81	7.18
Associate Professor	138	12.23
Assistant Professor	614	54.43
Guest Faculty	220	19.50
Visiting Professor	75	6.65
Total	1128	100

Table 4: Teaching experience of Respondents

Academic Status	*No. of respondents*	*percentage*
< 3 years	32	2.84
4-6 years	117	10.37
7 – 10 years	608	53.90
11 – 15 years	296	26.24
>16 years	75	6.65
Total	1128	100

respondents indicating using frequency is daily for their academic needs. 26.42% of respondents were mentioned their E-Resources accessing frequency is twice a week. 16.5% of respondents reported weekly usage of digital resources. 9% of respondents access the digital information indicating twice a month of occasional frequency. Remaining 0.36 % of respondents were indicating of their frequency level is occasionaly and as and when they need the information. Overall, daily usage respondents is highest than other types of frequency usage of electronic resources.

Table 5: Frequency of using E – resources by respondents

Frequency usage of E-Resources	*No. of respondents*	*percentage*
Daily	479	42.46
Twice in a week	298	26.42
weekly	176	15.60
Twice in a month	98	8.69
Monthly	73	6.47
Occasionally	3	0.27
As and when required	1	0.09
Total	1128	100

Table 6: Purpose of Using E-resources (multi answered) by respondents

Purpose of using E-Resources	*No. of respondents*	*percentage*
For research/ project work	1119	99.20
For updating subject knowledge	1093	96.90
For teaching	976	86.52
For writing papers and scholarly publication	995	88.21
For individual and career development	994	88.12
Design and Update the curriculum	874	77.48
Any other works	800	70.92
Total	1128	100

Table 6 analysis reveals that the purpose for accessing electronic resources by the sample respondents. 99.2% of respondents mentioned the reason for accessing digital resources for their research and project work. Followed by 96.9% of respondents for updating their subject knowledge, 88.21% of for writing research articles and publications, 88.12% of for their individual and career development, 86.52% to enhance integerion of digital matrieals for teaching, 77.48% of them for revised their syllabus and design and updating curriculum. 70.92% were indicated for miscellaneous academic tasks. It could be know the actual reason for accessing digital resources by the respondents is research and project work and updating subject knowledge and writing scholarly papers.

Table 7 analysis reveals that the ways to knowledge of accessing E-Resources. 43.17% of respondents were mentioned the most common methods of *updating with previous knowledge*, it shows the users rely on their experience with digital literacy followed by 25% of respondents were mentioned they gor digital knowledge through attending the *User Training Programme*. 17 % of respondents were gain the digital literacy skill development through attending the *workshop, conference / seminar*. Only 10 % of respondents were mentioned they got help and guidance from their respective library staff. 3 % of respondents were mentioned

Table 7: Ways to knowledge of Accessing E-resources

Methods of handling E- resources	*No. of respondents*	*percentage*
Update with previous knowledge	487	43.17
User Training programmes	281	24.91
Attaining from Workshop/ Conference / Seminar	196	17.38
Guidance from Library Staff	115	10.20
From Friends / Colleagues	32	2.84
Trial& Error	17	1.51
Total	1128	100

Table 8: Location for accessing E-resources

E resources accessing location	*No. of respondents*	*percentage*
University library	554	49.11
Department	381	33.78
Residential place at campus	108	9.57
Own residence, out of campus	85	7.54
Total	1128	100

the way of accessing E-Resources from their friends and colleagues. Remaing 2 % of respondents mentioned the way of accessing method is trial and error. Overall, the table data reveals that the way of accessing methods is strong preference update with previous knowledge and learnt from various training of orientation programmes and from workshop/conference /seminar.

Table 8 analysis reveals the location for accessing E-Resources by the sample respondents. Nearly 50% of respondents were mentioned their frequent accessing point is their university libraries. 33.78% of respondents were mentioned the accessing point is their respective departments for their convenience. Nearly 10% of respondents were indicating to their access point is their residential place at inside the university environment. Remaining 8 % of respondents mentioned their access point is own residences off campus, here the users might be faced the network connectivity issues or limited access to institutional subscriptions. Overall track result from this analysis is majority of users E-Resources accessing point is their university libraries.

Table 9 represents the awareness level of open-access E-Resources by the selected respondents.

Awareness Levels of E-Book & Digital Libraries

The open access E-Books are, DOAB, Project Gutenberg, NDLI, HathiTrust Digital Library, Oreilly Open Book, Free Book Centre, Wiki Books, E-Book Directory, Free Engineering Books, IntechOpen(STEM focus) and OAPEN. Among 1128 respondents, the high awareness sources are DOAB, Project

Table 9: Awareness level of Open Access E- Resources

Awareness level	*High*	*Medium*	*Low*	*Total*
E-Book & Digital Libraries				
DOAB	822	291	15	1128
Project Gutenberg	641	448	38	1127
NDLI	517	343	268	1128
HathiTrust Digital Library	357	324	447	1128
Oreilly Open book	299	397	432	1128
Free book centre	282	588	258	1128
Wiki books	294	689	145	1128
E-book directory	281	617	230	1128
Free Engineering books	270	564	294	1128
IntechOpen (STEM focus)	213	548	367	1128
OAPEN	221	324	583	1128
Open Access Journals & Articles				
DOAJ	932	185	11	1128
PubMed Central	694	396	38	1128
arXiv.org	341	598	189	1128
SSRN (Social Science Research Network)	293	693	142	1128
ERIC	812	298	18	1128
High wire	65	143	920	1128
Reference & Academic Search Engines				
Google Scholar	982	125	21	1128
BASE Search	66	185	877	1128
World Wide Science	156	261	711	1128
Open Educational Source Platforms & MOOCs				
Coursera	544	466	118	1128
edX	509	498	121	1128
Swayam	992	112	10	1114
Khan Academy	889	226	13	1128
Subject-Specific Open Repositories				
OpenStax	448	359	321	1128
JSTOR Open Content	895	221	12	1128
MIT OpenCourseWare	897	183	48	1128
Research Data & Thesis Repositories				
Zenodo	261	315	552	1128
Open Access Theses and Dissertations (OATD	469	447	212	1128
Shodhganga	998	130	0	1128
CORE	623	421	84	1128

Gutenberg, NDLI (National Digital Library of India). The moderate level awareness sources are; Free Book Centre, Wiki Books, E-Book Directory, Free Engineering Books, and IntechOpen. The low level awareness about E-Books are; HathiTrust digital Library, Oreilly Open book and OAPEN.

Awareness Levels of Open Access Journals & Articles

The open access E-Journals & Articles are; DOAJ, Pubmed Central, and ERIC are the high-level awareness E Journals. Next to that the moderate level awareness sources are arXiv.org and SSRN (Social Science Research Network). Only High Wire is the low-level awareness electronic sources of open access journals and articles.

Awareness Levels of Reference & Academic Search Engines

Google Scholar is the high level awareness of digital accessing academic search engines. Next to that the low-level awareness sources are BASE search and Worldwide Science.

Awareness Levels of Open Educational Source Platforms & MOOCs

The Coursera, edX, Swayam, Epg Pathasala and Kahn Academy all platforms of open educational sources & MOOCS are have high level awareness by the selected respondents.

Awareness Levels of Subject-Specific Open Repositories

The subject specific open repositories of Open Stax, JSTOR Open Content and MIT Open Courseware are having high level awareness among the selected university respondents.

Awareness Levels of Research Data & Thesis Repositories

Shodhganga and CORE are indicating high level awareness by the respondents, next to that, mentioned the moderate level awareness about Open Access Theses and Dissertations and indicating the Zenodo is low level awareness by the selected respondents in Kuwait universities.

It is concluded from this analysis, DOAJ, ERIC, DOAB, Shodhganga, MIT OCW and JSTOR Open Content**,** Swayam, Khan Academy, Google Scholar are indicating most utilized electronic resources and well-known open access educational platforms for academic users were mentioned. Pubmed central, arXiv, SSRN, edX, CORE and OATD are having moderate awareness. HighWire, BASE, CORE, Worldwide Science, Open Stax, Zenodo are identified the low level awareness by selected respondents.

Table 10 reveals that the faced problems while accessing E-Resources on their respective libraries. Poor Network connectivity (85.37%), Power Fluctuation (75.53%), Information Overload (65.69%), Finding Irrelevant Information (56.29%), Language Barreir (57.98%), Copyright

Table 10: Barriers faced while using E-resources by Respondents

Barriers	*No. of respondents*	*percentage*
Power Fluctuation	852	75.53
Poor Network connectivity	963	85.37
Insufficient Resources	453	40.16
Finding irrelevant information	635	56.29
Digital Literacy Gap	357	31.65
Lack of knowledge	258	22.87
Language barrier	654	57.98
Information overload	741	65.69
Lack of Awareness	357	31.65
Restriction of Limit to access	598	53.01
Risk of accessing the subscription resources	229	20.30
Diverse of data retrieval	321	28.46
Difficulty for filtering relevant content	435	38.56
Copyright & Access Policies	651	57.71
Poor archives	582	51.60
Privacy & Security Concerns	441	39.10
Infrastructure Issues in Institutions	358	31.74
Lack of Library Staffs' help	257	22.78
Other barriers	295	26.15
Total	1128	100

Table 11: Advantages of using E-resources

Advantages	*No. of respondents*	*percentage*
Time consuming	1118	99.11
Searchability & Quick Access	974	86.35
More informative	876	77.66
More effective	952	84.40
Remote access	357	31.65
Space Saving	1112	98.58
Environment Friendly	745	66.05
Updated Content	856	75.89
24/7 Accessibility	974	86.35
Multimedia Integration	657	58.24
Cost-Effective	799	70.83

Table 12: Satisfaction level of Accessing E-resources

Level of satisfaction	*No. of respondents*	*percentage*
Highly Satisfied	1005	89.10
Average	112	9.93
Not satisfied	11	0.98
Total	1128	100

Table 13: SWOT ANALYSIS OF E-RESOURCE USAGE OF UNIVERSITY FACULTY IN KUWAIT

Strength (S) **High Engagement:** 43 of respondents used e-resources daily, showing strong integration into academic routines. **Purpose of Usage:** majority usage for research, updating subject knowledge, and scholarly publication. **High Satisfaction:** 90 % of users are highly satisfied with e-resource access. **Awareness Platforms:** Platforms like DOAJ, DOAB, Google Scholar, and Shodhganga show excellent visibility. **Advantages:** Time-saving, space-saving, and 24/7 accessibility are widely appreciated.	***Weakness (W)*** **Digital Literacy Gaps:** 32% report digital literacy issues, and 23% lack knowledge about e-resources. **Limited Training:** Only 25% received user training, and just 17.38% gained knowledge through workshops or seminars. **Awareness Gaps:** Many platforms like BASE Search and Highwire suffer from poor visibility. **Access Location Constraints:** 8% access e-resources from their own residence, indicating limited off-campus accessibility.
Opportunity (O) **Mobile & Remote Expansion:** 49% of accessing from university libraries and 34% from departments, there's room to expand mobile and home-based access. **Curriculum Integration:** 77% used e-resources for curriculum design to embed digital tools into academic planning. **MOOC Platforms:** High awareness of platforms like Swayam and Khan Academy suggests potential for blended learning models. **Faculty Development:** Targeted training programs could bridge gaps in digital literacy and platform awareness.	***Threats (T)*** **Infrastructure Challenges:** Poor network connectivity and power fluctuations are major barriers. **Information Overload:** 66% struggle with overwhelming content, and 56% report irrelevant information. **Copyright & Access Restrictions:** Over half (57.71%) face issues with access policies. **Security & Privacy Concerns:** 39% are wary of privacy risks, which could deter usage.

& Access policies (57.71%), Lack of Awareness (31.65%), Restriction of Limit to Access (53.01%) are the mentioned by respondents is most complaint barriers. Followed by Insufficient Resources (40.16%), difficulty filtering relevant content (38.56%), Privacy & Security Concerns (39.10%), Digital Literacy Gap (31.65%), Infrastructure Issues in Institutions (31.74%) and Poor Archives (516%) are mentioned in moderate level barriers. Risk of accessing subscribed resources (20.3%), Lack of Knowledge (22.87%), Lack of Library Staffs' help (22.78%) and other kind of barriers are (26.15%) were mentioned the Low-level barriers for accessing E-Resources. It could be found from this table analysis is the electricity and internet is the main barrier. Also respondents were expect the orientation or training for digital literacy, search strategy, Awareness program and accessing sources are support from respective libraries.

Table 11 represents user perceptions about various benefits of E-Resources in higher educational academic and research environments. Time Saving (99.11%), Space reducing (98.58%), Searchability & Quick Access (86.35%) and 24/7 accessibility (86.35%) are the most appreciated advantages of accessing E-Resources. Followed by More Effective (84.4%), More Informative (77.66%), Updated Content (75.89%) and the Cost Effective (70.83%) are the most highly valued advantages. Environment friendly (66.05%), Multimedia Integration (58.24%) are the moderately recognised advantages. Remote access (31.65%) is the least noted advantage of accessing E-Resources. It could be noted that most advantages of accessing E-Resources are appreciated for Time saving, Space, easy accessibility, and it's effective and more informative.

Table 12 presents the satisfaction levels of respondents regarding the availability, accessibility, and utility of E-Resources based on their experience with university libraries.A total of 1,005 respondents (89.1%) reported being highly satisfied with their access to E-Resources, indicated that digital platforms are effectively meeting academic and research needs. This result reflects the strong usability, relevance, and reliability of the E-content. Meanwhile, 112 respondents (10%) expressed moderate satisfaction with E-Resource services provided by their university libraries. This level of satisfaction may stem from issues such as occasional access disruptions, user interface limitations, or other technical challenges. Fewer than 1% of respondents indicated dissatisfaction, possibly due to barriers encountered while accessing E-Resources, such as connectivity problems, lack of support, or unclear navigation. Organizing frequent training or orientation programmes and developing a dedicated technical support team to assist users during E-Resource access is enhancing satisfaction recommended by the researcher.

The table 13 analysis reveals that overall respondent's usage pattern of E resources by the Kuwait university faculties Strength, Weakness, Opportunities and Threats are explained elaborately.

Findings and Conclusion

The results derived from this study; based on the demographic analysis, gender wise the male respondents were highest. From academic status most respondents are Assistant professors. Over half of the respondents have 7 to 10 years of teaching experience. Majority of respondents access e resources are daily. Majority of respondents pointed the purpose digital resources for their research and academic needs. Most of the respondents were access resources on their prier knowledge, and most access location

is their university library. High level awareness of open electronic resources like DOAJ, Google Scholar, JSTOR Open Content, and Shodhganga. Poor network connectivity, power fluctuation, and information overload are major challenges. Time-saving, space-saving, and quick access are widely acknowledged for advantages of accessing e resources. Majority of respondents indicated highly satisfied with e-resource access, indicating successful adoption. The results align with prior studies (Patel et al., 2022; Zhang et al., 2021), which emphasize the increasing reliance on digital platforms for academic and research purposes. The high awareness level may be attributed to institutional efforts in promoting digital literacy and accessibility to e-resources.

This study highlights the pivotal role of digital libraries in modern education and research in higher educational institutions. Gender differences do not significantly impact e-resource usage, suggesting that digital engagement is more dependent on academic needs and institutional policies rather than individual characteristics. This study emphasizes the necessity for universities to enhance the digital literacy training or orientation of electronic resources accessibility.

Acknowledgements

I want to express my sincere gratitude to Dr. N. Amsaveni, my supervisor, for her constant encouragement and enlightening feedback throughout this study. I would also thank the head of the department of Library information Science of Bharathidasan University for the unwavering support. Heartfelt appreciation is extended to faculty members, and Staff at the Indian Community School Kuwait, Amman Brnach for providing the necessary resources and assistance for this study.

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