

Awareness, Usage, and Satisfaction with Online Databases Subscribed by the UGC Consortium and National Science Foundation among Academics in Eastern University, Sri Lanka

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ABSTRACT

The massive proliferation of online databases has profoundly impacted academic research and scholarly communication. This study describes the results of a questionnaire-based survey, which was conducted to investigate awareness, usage and satisfaction with subscribed online databases among academics at Eastern University, Sri Lanka (EUSL). Self-administrated questionnaires were distributed among staff members from all six faculties of Eastern University, Sri Lanka and three departments of Swami Vipulananda Institute of Aesthetic Studies (SVIAS), Eastern University, Sri Lanka (n=149). Data were analyzed descriptively using SPSS software. The results revealed that the main purpose of using the subscribed databases was scholarly communication, which was around 60%. A substantial percentage (82%) of the staff visited the library website to access the links for these databases.

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Received: 07 October 2024, Accepted revised version: 2 January 2025.

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Although the university provided remote access to these subscribed databases through user authentication, most respondents (61%) were unaware of the off-campus access. Further, the highest percentage (81.1%) of the staff were satisfied with the appropriateness of the databases. As an overall picture, these subscribed databases were rarely accessed by academics. The findings clearly stated that a few percent of staff were satisfied with the databases in terms of accessing all the articles they needed. The study recommends that the library should subscribe to more online databases that are relevant to the needs of the academic staff and students at the university. Academic libraries ought to implement innovative tactics to encourage the use of online databases to which they have subscriptions.

Keywords: Online Resources, Databases, Eastern University, Sri Lanka, Academics, Awareness

Introduction

Online research databases provide academics and scholars with the most recent and relevant information. Because of technological advancements, electronic databases have continued to gain prominence in tertiary education institutions worldwide, and many academics avail themselves of the opportunity to exploit these resources to access relevant and up-to-date information for diverse purposes. These databases are valuable resources for teaching, learning, research, and community building in any academic setting since they provide current information. Electronic databases provide access to vast amounts of academic information, which is vital for the overall academic performance of the faculty. Online databases provide additional advantages over print resources, such as reduced storage space, huge information capacity, strong sharing ability, high potential for collection extension, and

accessibility from anywhere and at any time (Zhang et al., 2011). At present, Artificial Intelligence (AI) has emerged as a key driver of innovation in the digital era, offering new possibilities for the development of Web 3.0. Generative AI has been used in many databases in its search process. Although researchers are attracted to the fascinating features of AI in delivering processed information, the importance of online databases cannot be underestimated. Because the large language models of AI tools deal only with open-access content in the public domain, they may not retrieve the content available in proprietary databases.

Realizing the importance of having access to electronic databases in teaching and research, the Standing Committee of Library and Information Science (SCOLIS) of the University Grants Commission (UGC) formed a consortium following a centrally supported concept. The Consortium of Sri Lankan Academic Libraries (CONSAL) was established in January 2014, and the SCOLIS spent significant amounts of money on online subscriptions for five internationally renowned databases and provided access to 15 UGC-accredited universities. The key goals of this initiative were to enhance access to academic journals at a low cost while also increasing the research productivity of participating universities through increased access to high-quality research articles. When this study was conducted, the UGC consortium provided access to Wiley Online, Emerald Insight, Sage Research Methods, Oxford University Press, and Oxford Medicine Online, while the National Science Foundation provided access to the Scopus database. Currently, the UGC Consortium provides access only to two databases, namely Emerald Insight and Oxford University Press.

Even though these online databases are easily accessible, they are still underutilized. There are several reasons leading to their underutilization. One of the most significant challenges is the lack of awareness and ability to use online resources. The most significant factors affecting e-resource usage among respondents were lack of access to archival issues and full text, the inability to access databases from home, lack of training in using e-resources, lack of computer and the Internet (Wijetunge & Sivasanthiran, 2020). Therefore, one of the most important responsibilities of librarians is to educate academics about available online databases and how to use them. Furthermore, librarians are liable for identifying problems associated with these databases and resolving such issues in order to provide better services to their customers (Lavanya & Santharooban, 2018).

This study was conducted to investigate the behaviour of academic staff in using online databases, highlighting user preferences and access patterns. Although this study was carried out in 2022, it remains relevant to the current context. Due to the economic crisis in the country, many databases were not subscribed by the UGC. However, as the country's financial situation gradually stabilizes, it is likely that subscriptions will resume, given the increasing demand for databases to support research and development activities. Therefore, the findings of this study will be useful in selecting suitable databases for the university and in planning effective marketing strategies to maximize their usage. Furthermore, the research findings will provide a valuable basis for comparing levels of awareness in the past and present at EUSL.

Problem Statement

Despite the huge investment of public funds to the subscription of databases, their usage was questionable. To ensure that these investments were worthwhile, there was a need to assess whether they served the purpose for which they subscribed and how relevant and useful these databases were in satisfying the information needs. This kind of assessment will serve as baseline information for making policy decisions in the future when subscribing to online databases. As per the previous literature, there was no scientific evidence regarding assessing awareness, usage and satisfaction with subscribed online databases among academics in EUSL. Only a limited number of researchers have explored the utilization of online databases by academics in various Sri Lankan universities (Arachchige & Karunaratne, 2014; Girakaduwa, 2019; Wijetunge, 2017; Wijetunge & Sivasanthiran, 2020).

Objectives

The main objective of the study was to study awareness, usage and satisfaction with subscribed online databases among academics in the EUSL.

The specific objectives were;

- To determine the awareness and usage of the online databases available to the staff
- To find out the level of satisfaction with the subscribed online databases
- To examine the barriers faced in using online databases

Literature Review

Awareness and usage patterns of scholarly databases by faculty members are important in any academic context. Numerous studies have been conducted to study the knowledge, usage, satisfaction, and impediments to electronic database resources in both local and international contexts. A study by Larson (2017) focused on examining the level of understanding and utilization of online resources that the library subscribed to at the University of Education in Winneba, Ghana. Based on the findings, it appeared that most participants were aware of the databases, while a minority were completely unaware of their existence. Additionally, some faculty members who used the databases were familiar with them and used them for research and teaching. The findings indicated that faculty members acknowledged the significance of databases for their information requirements. However, several obstacles hindered their effective utilization, such as the absence of off-campus database access, faulty passwords for certain databases, and the Internet connectivity problems.

Adetomiwa and Okwilagwe (2018) performed a survey among academic staff members at private universities in Nigeria to evaluate their understanding of electronic databases. The results indicated that teacher awareness was somewhat high, whereas the use of electronic databases was average. Most of the faculty members possessed a greater level of expertise in use of e-books and e-journals. The results also indicated a significant correlation between knowledge and the use of electronic databases among the faculty personnel. Tandi Lwoga and Sukums (2018) conducted a study to examine the factors that influence the uninterrupted availability of electronic resources at a health science university in Tanzania. The results indicated that

most of the faculty members were acquainted with several search engines and databases, including Wikipedia, Google, Google Scholar, and academic databases such as HINARI and PubMed. Nevertheless, fewer than 50% of participants were knowledgeable about other scholarly databases and search engines.

In a study conducted in 2020, Hendal aimed to examine the magnitude of advantages derived from electronic resources offered by the Kuwait University Libraries Administration, particularly considering the COVID-19 epidemic in the same year. The participants predominantly used electronic resources to write research articles, with e-journals being their favourite choice. Moreover, most individuals who did not utilize these tools expressed that they found them unhelpful, while the rest of the participants mentioned about their lack of knowledge on how to utilize them. The results also demonstrated that the majority of those who did not utilize electronic databases had a strong desire to acquire more knowledge about them. The findings also indicated that most non-users were eager to learn more about electronic databases. Most of the main challenges faced by the respondents were similar to those encountered by universities in other countries, such as the lack of access to full-text articles and the need for more database subscriptions (Hendal, 2020).

Sri Lankan literature primarily explored the utilization of electronic resources by undergraduate and postgraduate students across different disciplines. Nevertheless, only a few individuals had expressed their apprehension over the university academic staff. In 2017, Wijetunge conducted a study on the utilization of electronic resources available through CONSAL and other channels for professionals in the field of Library and

Information Sciences (LIS) at public universities in Sri Lanka. Around 60% of the respondents indicated that the accessible electronic resources adequately fulfilled their requirements. The study further highlighted the difficulties encountered by the staff members. Major obstacles identified include difficulty in accessing databases remotely, unavailability of some full-text articles, dearth of pertinent information, and lack of access to archival materials (Wijetunge, 2017).

Wijetunge and Sivasanthiran (2020) conducted a study on the use of electronic resources by academics at the University of Jaffna, Sri Lanka. Based on their studies, academics mostly utilized the Internet to fulfil their teaching and research requirements. The primary channels through which they acquired information about electronic resources were their peers and librarians. Around 44.1% of the respondents expressed a moderate level of satisfaction with the information coverage offered by the available e-resources, while 29.4% were happy and 26.5% were dissatisfied. The usage of databases was determined by several variables, including the unavailability of full-text databases, the difficulty in accessing databases from home, the lack of access to archiving concerns, and the absence of training in using electronic resources.

Additionally, Girakaduwa (2019) conducted a study on the utilization of electronic resources, services, and challenges encountered by library patrons at the University of Visual and Performing Arts (UVPA) in Sri Lanka. The sample included students, academics, and non-academic staff members. The findings indicated that the use of the database was rather low. The survey revealed that around 37.8% of participants had not utilized any electronic resources or services. Moreover, research revealed that 46% of participants

used e-journals and digital repositories. Thus, a significant percentage (62.2%) of the participants expressed satisfaction with the e-resources and other services provided by the library (Girakaduwa, 2019). Arachchige and Karunaratne (2014) conducted a study on the usage of electronic resources by engineering academics in Sri Lanka. The researcher investigated whether they used commercial or open-access databases. Based on their research, academics heavily used electronic resources and engineering academics specifically relied on open-access e-resources to fulfil their information requirements. This preference was due to the relatively high cost and complexity associated with accessing commercial e-resources in the country. An analysis of the existing literature highlighted deficiencies in knowledge about the purpose and frequency of using electronic resources, the extent of the levels of awareness and satisfaction, training requirements, and the factors that influence usage among academic staff in Sri Lanka. Consequently, our work aimed to address these drawbacks.

Research Design and Methods

A cross-sectional study was conducted among the academic staff of the Eastern University, Sri Lanka. The total number of academic staff were 241 and, the calculated sample size was 149 (Krejcie & Morgan, 1970) and the sample size was proportionally allocated for each faculty. The samples were selected by stratified random sampling. A self-administered questionnaire, which was developed by the authors, was used as a data collection tool. A pilot study was conducted among ten randomly selected academic staff members from the faculties, and the response was used to check the internal consistency of the tool. Descriptive and inferential statistics were used to analyze the data. Frequencies and percentages were calculated.

Correspondence analysis was performed to visualize the pattern to show the association between database usage and faculty. Satisfaction level was analyzed using a 5-point Likert scale ranging from ‘Strongly Disagree’ to ‘Strongly Agree’.

Results and Discussion

The response rate was 80.5% (149 academic staff responded to the survey). Table 1 shows the demographic profile of the respondents. Accordingly, the majority of the respondents were Senior Lecturers I or II. The Master's degree (including M.Phil) was the highest qualification most of them had, which was followed by a Doctoral degree. Regarding the respondent's work experience in the university system, 31.4% reported that they had 5-10 years of experience, whereas 28.6% were new recruitments. Around 4.3% of the staff had 16-20 years of experience. Most of the respondents belonged to the category who published one to three papers in previous years. It is important to note that nearly 10% of staff did not publish any papers in the previous year.

Table 1
Demographic profile

	Demographic details	Frequency	Percentage (%)
Faculty/ Institute	Faculty of Agriculture	10	8.3
	Faculty of Arts and Culture	16	13.3
	Faculty of Commerce and Management	10	8.3
	Faculty of Health-Care Sciences	36	30.0
	Faculty of Science	17	14.3
	Faculty of Technology	5	4.1
	SVIAS	26	21.7
	Total	120	100

Designation	Senior Professor	2	1.7
	Professor	3	2.5
	Associate Professor	2	1.7
	Senior Lecturer (Gr I or II)	56	46.3
	Lecturer (Confirmed/ unconfirmed)	16	13.4
	Lecturer (Probationary)	41	34.4
	Total	120	100
Educational qualification	Bachelor Degree	34	28.6
	Master's degree (including M.Phil)	48	40.0
	Doctoral degree	38	31.4
	Total	120	100
Experience in the University system	Less than 5 years	34	28.6
	5-10 years	38	31.4
	11-15 years	29	24.3
	16-20 years	5	4.3
	Above 20 years	14	11.4
	Total	120	100
Gender	Female	65	54.3
	Male	55	45.7
	Total	120	100
Number of research papers published in the previous year	1-3	91	75.7
	4-6	12	10.0
	More than 6	05	4.3
	Did not publish	12	10.0
	Total	120	100

Awareness and Use of Databases

The main purpose of using the subscribed database was for scholarly communication, which was around 60%. Additionally, the academics used databases for teaching (44%) and updating their subject knowledge (50%). The majority of the staff were getting information via library E-mail communication (38%), followed by library website and personnel communication with librarians, which were around 27% and 15%, respectively. Most of the staff preferred to access the UGC subscribed

databases within university premises and off campus, which was around 68%. It was encouraging to note that around 82% of the staff visited the library website to access these databases.

Regarding the awareness of the availability of databases, 42.9% and 38.6% of the respondents chose Oxford Journals and Wiley Online Library, respectively, at EUSL. Only 28.6% of the staff were aware that Scopus was available at EUSL. As per the findings, the majority of the staff were not aware of the availability of databases at the university. These findings recommended that the librarians must engage more in educating the users regarding the available databases. Regarding the Sage Research Methods database, 68.6% of the staff stated that they were unaware that this database was dedicated to research methods. Eastern University provided remote access to these subscribed databases through a user authentication provided by the Center for Information and Communication Technology (CICT). Although the university provided this facility, the majority of the respondents (61%) were not aware of the off-campus access.

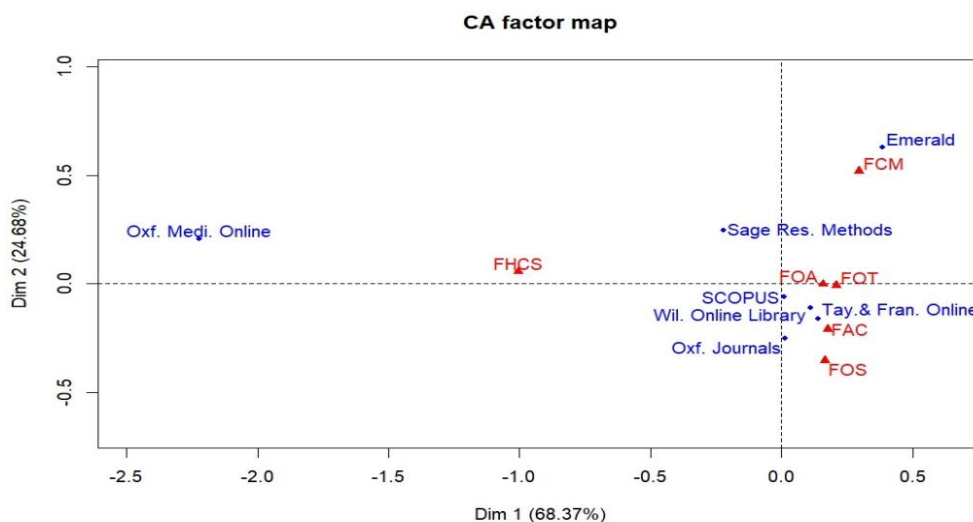
Association of Databases Preference with Faculty

A correspondence analysis was performed to assess the association between database preference and faculty. The results revealed that there was a significant association between database preference and faculty ($\chi^2 = 283.19$, $p < 0.0001$). Figure 1 indicates the two-dimensional factor map illustrating the association of database preferences with faculty. As per the plot, Oxford Medicine Online was preferred mainly by the academic staff of the Faculty of Health-Care Sciences, while the Faculty of Commerce and Management mostly used Emerald Insight. Usage of Taylor and Francis

Online, Scopus, Wiley Online Library and Oxford Journals were associated with the Faculty of Science, Agriculture, Technology, Arts, and Culture.

Figure 1

Biplot of Correspondence analysis to show the association of database usage with faculty



Frequency of Using the Databases

Around 32.5% of the faculty accessed the Scopus database a few times a week. Similarly, 31.1% of them accessed the Wiley Online Library. Overall, these subscribed databases were rarely accessed by academics, as indicated in Table 2. According to Table 2, nearly fifty or more percent of respondents never used the Emerald Insight and Sage Research Methods databases, although these databases are relevant to many fields. Frequent users of these databases were also few. Therefore, the reasons behind the low usage of these databases should be carefully analyzed by librarians in order to increase their usage. In addition, usage statistics of these databases should be monitored by the librarians.

Table 2
Frequency of using databases

Databases	Everyday N (%)	A few times a week N (%)	A few times a month N (%)	A few times a year N (%)	Never used N (%)
Emerald Insight	3 (2.5)	33 (27.5)	12 (10.0)	12 (10.0)	60 (50)
Oxford Journals	0	17 (17.4)	28 (28.3)	14 (13.0)	41 (41.3)
Oxford Medicine Online	0	7 (7.7)	7 (7.7)	23 (25.6)	53 (59.0)
Sage Research Methods	0	8 (7.7)	15 (12.8)	28 (25.6)	59 (53.9)
SCOPUS	2 (2.3)	31 (32.6)	15 (16.3)	9 (9.3)	38 (39.5)
Taylor & Francis Online	0	24 (30.2)	11 (14.0)	15 (18.6)	30 (37.2)
Wiley Online Library	0	30 (31.1)	19 (20.0)	8 (8.9)	38 (40.0)

Satisfaction with the Databases

The satisfaction of databases was measured using six statements on a Likert scale. Responses to agree and strongly agree were considered satisfied, and responses to disagree and strongly disagree were considered dissatisfied, while the undecided were considered neutral (Table 3).

Around 81.1% of the academics were satisfied with the databases as they were appropriate for their requirements. More than 50% of them were satisfied with the subject coverage and authenticity of databases (Table 3). However, only 39.2% of the respondents agreed with the statement relating to easy-to-get articles from other sites than these databases.

Based on the findings, it clearly stated that around 32% of the academics were dissatisfied with the database regarding accessing articles they needed.

Table 3
Satisfaction with the databases

Statements	Dissatisfied	Neutral	Satisfied
Provided databases are appropriate for my requirements	10 (10.5%)	8 (8.4%)	77 (81.1%)
I can find all the research articles necessary for me from these databases	29 (32.2%)	25 (27.7%)	36 (40.0%)
These databases provide authentic information	6 (6.6%)	17 (18.8%)	67 (74.4%)
I am satisfied with the subject coverage of these databases	18 (18.9%)	23 (24.2%)	54 (56.8%)
I save my time to find suitable research article through these databases	10 (10.2%)	24 (24.5%)	64 (65.3%)
It is easier to get articles from other sites than these databases	24 (24.7%)	35 (36.1%)	38 (39.2%)

Arachchige and Karunaratne investigated the use of e-resources among engineering academics in Sri Lanka in 2014. Their findings reported that academics obtained commercial e-resources mostly through personal purchasing or through channels other than the library since libraries were unable to provide a satisfactory amount of e-resources due to the lack of funds (Arachchige & Karunaratne, 2014).

Therefore, CONSAL should consider the opinions and recommendations of the user community before subscribing to databases from vendors. They can conduct an opinion survey among all university academics

before making the commitments. Librarians are also responsible for conducting opinion surveys on these databases to collect suggestions from users periodically. Otherwise, the databases will be underutilized, and there will be no point in spending a huge amount of funds on subscribing to them.

Barriers to Using Databases

The results revealed that most of the staff were unaware of the databases provided by EUSL, as indicated in Table 4. Another major barrier is the problems regarding accessibility of the full text of all the articles followed by the non-relevancy of the database. The non-relevancy was especially reported by academic staff from SVIAS. The research conducted by Wijetunge and Sivasanthiran (2020) examined the utilization of electronic resources among academics affiliated with the University of Jaffna in Sri Lanka. Observations revealed that none of them expressed satisfaction above 75% with the e-resources available to them. Moreover, they determined the variables that influenced the utilization of electronic resources. The main determinants influencing the use of e-resources were limited archive materials, failure to access complete texts, difficulty in accessing databases remotely, and insufficient training in e-resource utilization. In a similar vein, Girakaduwa (2019) initiated research on the use of electronic resources and services and the obstacles encountered by library users at the University of the Visual and Performing Arts (UVPA), Sri Lanka. The researcher highlighted that insufficient user education and awareness programmes were considered the primary obstacles to using e-resources.

Table 4
Barriers in using the databases

Barriers	Yes Frequency (%)
I am not aware of all the databases provided by EUSL	78 (71.4)
There are no research papers in my language	43 (38.9)
I am not aware of how to use databases/search articles	42 (44)
The available databases are not relevant to my field	65 (68.2)
The relevant databases do not cover my research field	42 (46.2)
Unable to read old research articles	37 (40.9)
Unable to download the full text of all the articles I needed.	65 (72.5)

Training Needs

According to the findings indicated in Table 5, around 85.7% of the academics preferred to receive training on currently subscribed databases.

Table 5
The topics for training

Topics	Yes N (%)
Awareness of databases provided by EUSL	94 (85.7)
Searching and retrieval of research papers	86 (95.8)
Awareness of open-access databases	85 (90)

Further, the relevant topics for training needs have been recorded. The majority of the staff were interested in having training programs on “searching and retrieval of research papers”, as indicated in Table 6. Therefore, Librarians should take necessary actions to organize workshops continuously to make them aware and educate them on searching skills.

Conclusions and Discussion

The results revealed that the main purpose of using the subscribed databases was scholarly communication, followed by updating subject knowledge. As per the findings, the majority of the academics were not aware of the databases available at the university. Therefore, there is a need to make them aware of available databases and how to access them on-campus and off-campus. As per the findings, academics rarely accessed the subscribed databases. Based on the findings, it clearly stated that the faculty were not highly satisfied with the databases regarding accessibility of the articles they needed and around 81.1% of the staff were satisfied with the fact that the databases were appropriate for their requirements. The major barriers to using the databases were the inability to download the full text of the articles, not being aware of all the databases provided by EUSL, and the fact that the available databases were not relevant to some of the fields.

Regarding the training needs, the majority of the staff were interested in having training programs on “searching and retrieval of research papers” followed by programs on “awareness of open access databases”. It shows that there is a need for the university management to subscribe to relevant databases, with the support of external funding, to fulfil the requirements of staff members. These subscriptions should be constantly renewed to avoid any inconvenience to users. It is recommended that library staff conduct more user studies and update the facilities accordingly with recent developments of the subscribed databases via current awareness services to the university community.

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