Use of Electronic Resources Before and During the Pandemic in the Universitas Indonesia Library

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Abstract

Background of the study: COVID-19 impacts library activities. However, previous studies have not analysed the use of electronic resources (online database) before and during the pandemic, especially concerning higher education libraries in Indonesia.

Purpose: This study investigated electronic collections before (2019) and during the pandemic (2020) in the Universitas Indonesia Library.

Method: This study used a quantitative approach with descriptive analysis. Using online database usage logs from 2019 to 2020.

Findings: The study divided its online database comparisons into several clusters, including multi-disciplinary, health, science and technology, and social science and humanities. The findings show that the use of almost all electronic collections declined in 2020, especially the use of e-books and protocol collections. When grouped according to knowledge clumps, however, the use of electronic collections increase in 1) health and 2) social sciences and humanities. Use declined in 1) multi-disciplinary and 2) science and technology clusters.

Conclusion: This study recommends further research.

Keywords: online database, electronic resources, university libraries, information searching, internet

Introduction

The COVID-19 pandemic has prompted the government to establish policies of social distancing. The policies aim to prevent the transmission of COVID-19 by limiting community activities in various fields, especially education, in which students are required to do their coursework online. These social distancing policies also impact library activities.

Libraries have been required to adapt to the COVID-19 emergency quickly. The library service policy has changed, now offering online what was originally done face-to-face. The collection must still be available to its users. Many libraries have started to facilitate the borrowing of print collections through expedited services. Electronic collections are also currently a mainstay of libraries in supporting education and research activities.

IFLA defines electronic collections as all collections that require computer access, either through personal computers or mobile devices, which can be accessed remotely via the internet (Johnson et al., 2012). Anglo-American Cataloging Rules 2nd Edition (AACR2) defines electronic collections as all materials that can be accessed directly (locally) or remotely (via network). Direct access refers to physical materials, such as discs, tapes and cartridges inserted into a computer. Remote access refers to materials that can be used via input-output devices, computer systems connected to a network, or hard disks or other storage devices (AACR, 2005).

Types of electronic collections include e-journals, e-books, full-text databases, indexing and abstracting databases, reference databases, numeric and statistical databases, e-images, and e-audio and visual resources (Johnson et al., 2012). In general, university libraries have electronic collections in the form of e-journals and e-books. However, other types of electronic collections are provided by vendors through subscription packages. Surachman (2014) explains the pattern of electronic collection development libraries use to build a digital environment, namely born-digital versus media transfer, subscription and purchase, and free access and open access.

Born digital refers to a collection that has been digital or electronic from the start. Libraries only need to build a system that can accommodate access to these electronic collections. Media transfer is the process of digitising an existing print collection into digital or electronic form. Transfer can be done through scanning or photographic techniques.

Another development pattern is the purchase of electronic resources using perpetual or one-time purchases, meaning that libraries can access purchased digital content at any time without having to pay again. This is different from the subscription system, where the library has to pay regularly within a certain period, usually once year, to access the electronic collection. Another development pattern is to utilise electronic collections that are free access and open access (collecting links to free and open electronic resources and then making them available to users).

Universitas Indonesia Library has many electronic collections to support the tri dharma of higher education. The library's development pattern for its electronic collection is digital-born, media transfer, perpetual, and subscription. This study will only measure the use of the subscription and perpetual electronic collections. These collections need to be evaluated considering their huge procurement costs. Evaluation can be done by identifying metrics to measure the collections' performance in achieving their goals (Johnson, 2014; Showers, 2018).

The electronic collection of the Universitas Indonesia Library can be accessed in two ways, namely, within the campus network and outside the campus network. Access within the network is accomplished using the campus hotspot, while access outside the network is done using EZ Proxy by authenticating users based on IP addresses. This outside access is granted through the remote-lib.ui.ac.id address by logging in with the user's Single Sign On (SSO).

Several studies on electronic resources and online databases were identified. According to Mercado's research (1999), online database searching was done solely by librarians 25 years ago. Today, library users learn how to do these searches themselves and learn critical thinking skills for database and keyword selection.

Covey (2003) found that many remote access users were dissatisfied because university libraries did not match users' needs and expectations for easy access to electronic resources. The survey found that library technology was not adequate for users who were not on campus and suggested improvements in service quality. In line with Covey (2003), De Groote and Dorsch (2003) measured the usage patterns of online journals and databases in an academic health sciences centre. They found that users preferred online resources to print, and many chose to access these online resources remotely. Convenience and full-text availability appear to play roles in selecting online resources. The findings of this study suggest that databases without links to full text and online journal collections without links from bibliographic databases will have lower use. These findings have implications for collection development, promotion of library resources, and end-user training.

Online databases developed at the end of the last decade, and the ability to search these databases, are important components of education (Piotrowski, Perdue and Armstrong, 2005). Swain and Panda (2009) found that internet-based e-resources were used better than CD-ROM databases. The search engines Google and Yahoo were used most frequently because of the limited availability of keywords in online databases.

Furthermore, Sult et al. (2013) found that a new approach to online database instruction during one-shot library sessions was needed as a cornerstone as information literacy programs move to online instruction. They found that instruction has not been clear on replicating many of the pedagogical advantages in a face-to-face environment. Consequently, librarians, along with programmers, have developed a new type of scalable and pedagogically sound interactive tutorial. Mery et al. (2014) evaluated the effectiveness of tools for online database instruction. Their results indicated that the type of online instruction students receive may not matter. Database instruction can successfully be taught online in a number of ways, from static tutorials to highly interactive ones.

Deans and Durrant (2016) investigated the productive growth of electronic resources over the last decade (access and organisation of e-resources) and methods to ensure information reaches the community of users. The results showed that the student community underutilised Online Public Access Catalogue (OPAC). The results also criticised the implementation of school administration policies and procedures by libraries and stakeholders.

Sehar and Shahid (2020) found that university libraries play a vital role in campus life by guiding students to reference services, providing library research instruction, and developing library collections. They investigated the authority of university libraries during the COVID-19 pandemic. The results show that services, skills, instructions, and training programs have been present during the pandemic. The findings showed that 79.3% of university libraries provided services during the lockdown. Some libraries continued to provide traditional services during the pandemic and did not offer online services.

In Indonesia, research on the use of libraries, especially the use of online databases, has been done before. Maryono (2013) states that use of an online database can be measured from the statistics on article-ordering services, even though the data is partial. The findings show that the primary source of e-journal articles used in the Gadjah Mada University library is EBSCO, in addition to ProQuest, JSTOR, Springer, and Science Direct. Maryono recommended that facilities and infrastructure be improved for easier access (2013). He also recommended that

communication between librarians and users be improved. (Kusuma, 2016) stated that the use of online databases could be maximized through facilities, such as remote Lib UI (https://remote-lib.ui.ac.id/), which aims to provide easy access to digital collections.

Dewi (2019) evaluated the cost of using Science Direct at the Indonesian Islamic University Library and found that the service was beneficial. The Maryono (2013) study and the Dewi (2019) study are both case studies in Indonesia and were carried out before the COVID-19 pandemic. Research on the use of electronic collections during COVID-19 has been conducted by Huffman (2020). He noted that because of the COVID-19 pandemic, library vendors are currently offering electronic collections on a free and open basis for a short period. However, he expressed concern that librarians will face a post-pandemic dilemma when vendors begin to charge for these services.

Researchers for the libraries of the University of Wisconsin-Stevens Point (UWSP) have evaluated Annual Reviews Journals, Bloomsbury Digital Resources, EBSCO's Academic Search Ultimate and Business Source Ultimate, Flipster Digital Magazines, and JoVE Streaming Videos. They found that UWSP only subscribed to one free electronic collection provided by vendors at the beginning of the COVID-19 pandemic. EBSCO's Academic Search Ultimate showed fair usage by students, faculty, and staff based on statistical usage. Researchers found that this service offered resources that met the needs of its users in an online environment.

The preceding literature review found no further descriptive analysis regarding the use of electronic resources (online database) before and during the pandemic in general, nor in the specific case of higher education libraries in Indonesia.

The current study compares electronic collections before (2019) and during the pandemic (2020) at Universitas Indonesia Library. The study will use log data on the use of electronic collections (Online database) in 2019 and 2020 obtained from Universitas Indonesia Library.

Research Method

This study used a quantitative approach with descriptive analysis. Online database usage logs were obtained and used with permission from the Universitas Indonesia Library. The data used is from two years, namely 2019 (before the pandemic period) and 2020 (during the pandemic). The analysis description stage will be presented, starting from comparing the most frequently accessed e-journals and e-books. Furthermore, this paper will discuss each online database subscribed to by Universitas Indonesia Library based on knowledge clumps consisting of multi-disciplinary fields, health, science and technology, and social and humanities.

Result and Discussion

The Universitas Indonesia Library subscribed to 56 online databases in 2019 and added 1 in 2020 to provide e-journals, e-books, multimedia, other electronic documents, and research tools to support "Tri Dharma Perguruan Tinggi." Overall, usage of the electronic collection of the Universitas Indonesia Library decreased from the pre-pandemic period (5,163,360 uses) to the pandemic period (4,706,747 uses). This decrease of 456,613 uses, or 8.84%, takes into account an increase in the usage of electronic collections in multimedia (64) and research tools (200,606). Without this increase, the total number of uses decreased by 657,283, which occurred in e-journal collections and proceedings (72,128), e-books and protocols (544,038), theses and dissertations (97,974), and other documents (33,143).

The following is a comparison of the 10 online databases (e-journals) that are most often

used by the Universitas Indonesia academic community:

Table 1. Comparison of the Online Database (E-Journal) Most Frequently Accessed

No	2019	*n*	2020	*n*
1	Science Direct	971,004	Science Direct	1,026,086
2	JSTOR	354,201	JSTOR	353,342
3	ABI/Inform Collection (ProQuest)	275,719	ABI/Inform Collection (ProQuest)	189,322
4	SpringerLink	160,999	Taylor and Francis	188,291
5	Taylor and Francis	153,491	SpringerLink	150,544
6	Health and Medical Collection (ProQuest)	151,703	Health and Medical Collection (ProQuest)	135,574
7	SAGE Journal	134,731	Emerald	124,357
8	Emerald	118,387	SAGE Journal	116,611
9	Clinical Key	58,610	Wiley	87,447
10	Oxford Journals	57,115	Clinical Key	47,244

The online database (e-journal) is used mainly by the academic community of Universitas Indonesia, which did not change significantly between 2019 and 2020. Elements in numbers 1 to 9 were included in the database both years, although several changed places from 2019 to 2020, such as SpringerLink, Taylor and Francis, SAGE Journal, Emerald, and Clinical Key. Wiley replaced Oxford Journals in 2020. It is necessary to conclude the pattern by looking at the statistics on the use of e-journals in the previous year and after.

Micromedex is also widely used by the academic community of Universitas Indonesia, even though the content is not an e-journal. The use of Micromedex exceeded the use of Clinical Key and Oxford Journals in 2019, while in 2020, it had fewer uses than Clinical Key. However, in 2020, the use of the thesis and dissertation database exceeded the use of Clinical Key while having fewer uses than Wiley.

The following is a comparison of the 5 Online databases (e-books and protocols) that are most often used by the academic community of Universitas Indonesia, namely:

Table 2. Comparison of the Online Database (E-Book) Most Frequently Accessed

No	2019	*n*	2020	*n*
1	SpringerLink (*e-book*)	759,106	ProQuest E-book Central	520,346
2	ProQuest E-book Central	311,386	Cambridge Core	51,775
3	Cambridge Core	68,392	Clinical Key	31,087
4	Clinical Key	43,969	SAGE E-book	27,722
5	SpringerLink (*protocol*)	22,928	JSTOR	20,105

Overall, the online database containing e-books, which the Academic Civitas of Universitas Indonesia primarily uses, tends to be the same between 2019 and 2020. The only differences occurred in SpringerLink (e-book and protocol), SAGE E-book, and JSTOR. There was a significant decrease in the use of SpringerLink (e-book) during 2020 by 98.35%. This needs to be investigated further regarding the factors that caused the decline in using the SpringerLink e-book. SpringerLink (protocol) will no longer be subscribed to in 2020. The SAGE E-book was only subscribed to in 2020, and the decision was made precisely in accordance with the information needs of Universitas Indonesia Academics.

The following is a discussion of each online database subscribed to by Universitas Indonesia Library based on knowledge clumps. This grouping is based on the lib.ui.ac.id website, which has divided the online database into several clusters: multi-disciplinary, health, science and technology, and social and humanities.

Multi-Discipline

There are 26 online databases subscribed to by the Universitas Indonesia Library containing multi-disciplines. These contain e-journals, e-books, protocols, and theses and dissertations. The databases used are multi-disciplinary, namely Annual Reviews, Cambridge Core, EBSCO, JSTOR, Nature, Oxford, ProQuest, SAGE, Science Direct, and Springer.

Annual Reviews are publications and critical reviews on biomedical, physics, and social sciences topics, such as economics. Most of the publications in this database are indexed by Thomson Reuters. Cambridge Core contains various disciplines, such as social and humanities, natural sciences, technology, and health. EBSCO is a database that contains various disciplines, such as e-journals, proceedings, reports, and monographs.

JSTOR provides various disciplines, including art, science, business, ecology and botany, general health and science, literature, and music. Nature publishes the best peer-reviewed research across the fields of science and technology and various disciplines. Oxford contains journals in medicine, health, natural sciences, law, mathematics, physical sciences, social sciences, and humanities.

ProQuest contains e-journals, theses and dissertations, indexes, and abstracts from various disciplines. SAGE is the fifth largest journal publisher globally, covering social and humanities, science and technology, and medicine. Science Direct is Elsevier's database, which contains various disciplines. Springer contains e-journals, e-books, and protocols covering various disciplines.

Table 3. Multi-Disciplinary Online Database Usage

No	Online Database	2019	2020
1	Annual Reviews	4,384	3,085
2	Cambridge Core (e-journal)	14,068	7,686
	Cambridge Core (e-book)	68,392	51,775
3	EBSCO	133	241
4	JSTOR (e-journal)	354,201	353,342
	JSTOR (e-book)	21,143	20,105
5	Oxford Journals	57,115	39,153
6	Oxford Scholarship Online	98	621
7	ABI/Inform Collection (ProQuest)	275,719	189,322
8	Accounting, Tax & Banking Collection (ProQuest)	9,513	9,550
9	Asian & European Business Collection (ProQuest)	5,724	4,673
10	Health and Medical Collection (ProQuest)	151,703	135,574
11	ProQuest Dissertation & Theses Global	56,007	48,033
12	Research Library (ProQuest)	39,060	38,360
13	Advanced Technologies & Aerospace Database (ProQuest)	17,211	11,888
14	Material Science & Engineering Database (ProQuest)	20,198	14,973
15	Entrepreneurship Database (ProQuest)	4,654	5,148
16	Healthcare Administration Database (ProQuest)	2,035	1,212
17	Nursing & Allied Health Database (ProQuest)	6,364	5,337

18	Political Science Database (ProQuest)	12,212	13,775
19	Psychology Database (ProQuest)	21,570	16,507
20	ProQuest E-book Central	311,386	520,346
21	SAGE Journal	134,731	116,611
22	SAGE E-book	0	27,722
23	Science Direct (e-journal)	971,004	1,026,086
	Science Direct (e-book)	5,855	9,053
24	SpringerLink (e-journal)	160,999	150,544
	SpringerLink (e-book)	759,106	12,493
	SpringerLink (protocol)	22,928	0
25	Nature	19,156	21,343
26	Academic Search Complete (Ebsco)	24,023	18,349
	Total	3,550,692	2,872,907

The decrease in the use of electronic collections from 2019 to 2020 was 677,785, or 19.09%. Most of the online databases in this family are included in the ten most widely used online databases for both e-journal and e-book collections, such as Science Direct, JSTOR, ABI/Inform Collection (ProQuest), Oxford Journals, SpringerLink, Health and Medical Collection (ProQuest), ProQuest Dissertations and Theses Global, SAGE Journal, ProQuest E-book Central, Cambridge Core, and SAGE E-book.

Most of the online databases have experienced a decline in electronic collections, including those mentioned above. The rate of drop in usage varies from 0% to 98%. The smallest decrease was 0.24% by the JSTOR online database. The highest decrease was by the SpringerLink online database (e-book) of 9.35%. This needs to be investigated further, which is different from the use of e-journal collections. The SpringerLink e-journal has decreased by only 6.49%, while the e-book has been mentioned above. The library will not subscribe to the protocol during 2020.

The increase in the use of electronic collections also varies, from 0% to 500%. The smallest increase was 0.39% by online database Accounting, Tax, & Banking Collection (ProQuest), while the highest increase was 533.67% by Oxford Scholarship Online. There will be additional procurement of the SAGE E-book Online database in 2020. In 2019 Universitas Indonesia Library did not subscribe to the SAGE E-book.

Health

There are seven online databases related to health sciences. Clinical Key is a database that provides access to medical information, such as e-books, e-journals, clinical overviews, clinical trials, drug monographs, guidelines, patient education, multimedia, procedure videos, and clinical calculators. DynaMed provides current and accurate, evidence-based information for clinical practice and health professionals. CINAHL is a database that provides access to e-journals, evidence-based care sheets, quick lessons, and more for nursing and health professionals.

Medline is a database that contains journal articles related to biomedicine. Medline records are indexed on NLM Medical Subject Headings (MeSH). Micromedex is a database containing clinical knowledge (medication, disease, and toxicology management), hospital formularies, treatment records, medication essential fact sheets, and pharmaceutical knowledge. Dentistry is a database containing journals, books, monographs, magazines, and trade periodicals for dentistry and oral science. Wiley is a database that provides various disciplines,

but Universitas Indonesia Library subscribes to medicine, nursing, dentistry, and health care to be grouped into health and medical clusters.

Table 4. Online Use of Health and Medicine Cluster Database

No	Online Database	2019	2020
1	Clinical Key (e-journal)	58,610	47,244
	Clinical Key (e-book)	43,969	31,087
	Clinical Key (multimedia)	282	402
2	CINAHL	4,606	3,145
3	Dentistry	7,155	8,452
4	Dynamic	4,764	3,581
5	Medline	15,572	17,030
6	Micromedex	63,166	41,794
7	Wiley (e-journal)	24,809	87,447
	Wiley (e-book)	1,093	381
	Total	224,026	240,563

The use of electronic collections increased by 16,537 or 7.38% from the previous year. The highest use of the Online database in the health family is Clinical Key (2019) and Wiley (2020). The use of Clinical Keys decreased by 24,128 or 23.46% in 2020. However, in 2019, the total use of Clinical Keys reached 102,861, or 45.91% of the total use of the online database in health families. Clinical Key was the most widely used online database during 2019 and 2020. Academic members of Universitas Indonesia access a great deal of e-journal content and a large number of Clinical Key e-books.

Total Wiley usage in 2020 was 87,828, or an increase of 239.08%. Wiley is also included in one of the most widely used online databases, especially the e-journal collection. Micromedex also has high usage despite a 33.83% decrease in usage in 2020.

Science and Technology

The Universitas Indonesia Library subscribes to nine online databases related to science and technology clusters. In science, the library subscribes to the American Chemical Society (ACS) and the Royal Society of Chemistry, which provide databases for advancing chemistry. As for physics, Universitas Indonesia Library provides the Institute of Physics, the American Institute of Physics (AIP), and the American Physical Society (APS). In the field of engineering, the library subscribes to the Association for Computing Machinery (ACM), especially in the fields of computers and information technology; the American Society of Civil Engineering (ASCE), specifically in the field of civil engineering; the American Society of Mechanical Engineers (ASME), especially in the fields of mechanical engineering and mechanical engineering; and IEEE Xplore, particularly in the fields of computer science and electrical engineering.

Table 5. Use of the Online Science and Technology Cluster Database

No	Online Database	2019	2020
1	American Chemical Society (ACS)	17,279	14,850
2	Association for Computing Machinery (ACM)	10,505	12,609
3	American Institute of Physics (AIP)	5,540	3,163
4	American Physical Society (APS)	3,274	2,370
5	American Society of Civil Engineering (ASCE) (e-journal)	4,734	5,064

	American Society of Civil Engineering (ASCE) (e-book)	16	15
6	American Society of Mechanical Engineers (ASME) (e-journal)	1,002	565
	American Society of Mechanical Engineers (ASME) (e-book)	2	10
7	IEEE Xplore (e-journal)	55,832	41,021
	IEEE Xplore (e-book)	2	1
8	Institute of Physics	18,503	3,012
9	Royal Society of Chemistry (e-journal)	7,337	7,467
	Royal Society of Chemistry (e-book)	44	56
	Total	124,070	90,203

The online database in science and technology is the lowest compared to other knowledge clusters, namely 124,070 in 2019 and 90,203 in 2020. The decrease in usage is 27.29%. Although there has been a decrease in the total number of online databases for science and technology, there are still increases in several online databases, such as ACM, ASCE, ASME, and the Royal Society of Chemistry. The lowest increase was 6.97% for the ASCE online database (e-journal), while the highest was 400% for the ASME online database. It is a large percentage, but usage is small, from 2 to 10.

IEEE Xplore is the most widely used online database in this family. Even though the number of uses has decreased from 2019, the use of IEEE Xplore is still the most compared to other online databases. IEEE Xplore is not yet included in 10 online databases with the most usage in 2019 and 2020.

Social and Humanities

The Universitas Indonesia Library provides 8 online databases to support the tri dharma of higher education in the social and humanities sector. The American Psychological Association (APA) PsyArticles is a database that provides core collections in psychology. Business Source Complete (Ebsco) is an Ebsco database with business and economics subjects covering marketing, management, accounting, banking, and finance.

Taylor and Francis is a database that has specialist markets. It provides various disciplines. However, the Universitas Indonesia Library chooses the social science field to provide to its users. Emerald provides databases in the fields of library and information science and law.

The Universitas Indonesia Library subscribes to Kluwer Arbitration, Westlaw, and Hukum online in the field of law. Kluwer Arbitration provides access to international arbitration materials. Westlaw is a case law database covering court documents, treaties, laws, and legal reviews in international journals. Hukum Online is a data centre on court regulations and decisions, explanations of legal bases, and law-related publications to meet the needs of legal professionals.

ProQuest Learning Literature is a ProQuest Online database that focuses on comprehensive literature collections.

Table 6. Use of the Electronic Collection of the Social Humanities Family

No	Online Database	2019	2020
1	American Psychological Association (APA) PsycArticles	39,477	32,942
2	Kluwer Arbitration	752	331

3	Westlaw	3,882	10,588
4	Hukum Online	40,491	22,510
5	Business Source Complete (Ebsco)	19,361	18,626
6	ProQuest Learning Literature	265	190
7	Taylor and Francis	153,491	188,291
8	Emerald (e-journal)	118,387	124,357
	Emerald (e-book)	2,937	18,415
	Total	379,043	416,250

The overall use of the online database in social and humanities families was 379,043 in 2019 and 416,250 in 2020, an increase of 9.82%. Taylor and Francis and Emerald were the most used online databases in the top 10 and on the social sciences and humanities clusters for two consecutive years. The use of Taylor and Francis reached 40.49% of the entire online database of social and humanities families in 2019, while in 2020, it was 45.24%. The use of Taylor and Francis increased during 2020 by 22.67% from the previous year.

The use of the online database in the legal field was 45,125 in 2019 and 33,429 in 2020. Use of the online database in the legal field in 2019 was 11.90% of the total online database. In 2020, this decreased by 3.87%. ProQuest Learning Literature had the least usage and was discontinued in July 2020.

Research Tools

Research tools assist users in carrying out the research process. Research begins by looking for information provided by the library. Summon discovery search or Summon Serials allows searching all electronic collections to all online databases through one door. The Pivot is a source of information that matches funding with collaborators and researchers. Other research tools include Scopus, a database that contains abstracts and citations for academic journal articles, and Turnitin and iThenticate, which are open-source similarity checking software to detect possible plagiarism.

Table 7. Use of Research Tools

No	Research Tools	2019	2020
1	Integrated Search from ProQuest (Summon Serials)	610,951	795,042
2	Scopus	253,147	266,610
3	Turnitin	11,800	16,832
4	Ithenticate	8,376	6,887
5	Pivot	567	76
	Total	884,841	1,085,447

The increase in the use of the overall research tool was 200,606 or up 22.67% from 2019. There was also increased use of Scopus (5.32%), Turnitin (42.64%), and Summon Serials (30.13%). This increase may indicate an increase in the number of assignments given by lecturers and the number of studies done in 2020. However, it is necessary to examine whether this increased use impacted research results of the Academic Civitas of Universitas Indonesia.

The Universitas Indonesia Library also allows users to check documents for final assignments, including national journals on the Turnitin software, more than once as long as the specified limit of the study program has not been reached. This allows a significant increase in the use of Turnitin in the Universitas Indonesia Library. Therefore, the increase in the use of

Turnitin is not necessarily accompanied by an increase in research by the academic community of Universitas Indonesia.

A decline was only seen in iThenticate and Pivot. Using iThenticate at Universitas Indonesia Library checks the similarity of documents for international journals and conferences, while Turnitin checks the similarity of documents for college assignments, final assignments, and national journals. The decrease in the use of iThenticate may indicate a decrease in the number of international publications produced by the academic community of Universitas Indonesia, but this needs further investigation.

The use of Pivot decreased significantly by 86.60% because it had not been subscribed to since July 2020. When Pivot statistics from January–June 2019 and January–June 2020 were compared, they also showed a significant decrease of 81.6%, from 419 page views to 76 page views.

Conclusion

According to the preceding data, almost all use of electronic collections declined in 2020, especially that of e-books and protocol collections, by 544,783 or 44.04%. According to knowledge clumps, the use of electronic collections increased in the clusters of (1) health and (2) social and humanities sciences. The decline occurred in the (1) multi-disciplinary and (2) science and technology clusters.

The online databases most used by the academic community of Universitas Indonesia during 2019–2020, which contains e-journals, were Science Direct, JSTOR, ABI/Inform Collection (ProQuest), Taylor and Francis, SpringerLink, Health and Medical Collection (ProQuest), Emerald, SAGE Journal, Wiley, Clinical Key, and Oxford Journals. ProQuest Dissertation and Theses and Micromedex were also widely used.

The online database contains e-books that were widely used during 2019–2020: ProQuest E-book Central, Cambridge Core, Clinical Key, SAGE E-Book, JSTOR, and SpringerLink. The library should continue to subscribe to several online databases due to their increase in usage. These include Oxford Scholarship Online, which saw an increased usage of 533.67% and Wiley, which saw an increase of 252.48% in e-journal usage.

SpringerLink (protocol) was removed from the online database in early January 2020, and ProQuest Learning Literature and Pivot was removed in July 2020. SAGE E-book was added to the online database in 2020. This was a good decision because it was widely used, and users indicated that it fulfilled their needs.

Although there was an overall decline in the use of electronic collections during 2020, there was a significant increase in all research tools, except for Pivot. This increase could indicate an increase in the number of assignments given by lecturers and the number of studies conducted in 2020. This research was conducted in a case at the University of Indonesia, so this research cannot be generalised to other universities in Indonesia in general. In addition, the differences in e-journals subscribed to by the University of Indonesia and the distribution of clusters at other universities can be reviewed with further exploration.

Consequently, this study finds that further research is needed on the following: 1) What factors caused the decline in the use of electronic collections in the Universitas Indonesia Library during 2020? In addition, lending from the print book collection was not allowed from March 23 until the end of 2020. Did Universitas Indonesia civitas use open access and free access to support research and assignments during this period? 2) Why was the use of SpringerLink e-books on the decline in 2020? 3) Did the increased use of research tools in 2020 have an impact on the increased number of studies produced in 2020?

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