

E-Journals Usage Trend in IUB Library

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Abstract

This article aims to give a general understanding about the popularity of electronic resources in Independent University, Bangladesh, which would help in shaping higher education in the country. Resources usages were determined on the basis of electronic resources providers' data. The article comes up with some important findings. Use of Emerald database in IUB found to be more rational compared to other three IP based databases. The ratios between the top-most and the 25th documents those opened, from Emerald 5:1, from JSTOR 13:1, from ABI/Inform 19:1, from OUP Journals 31:1. Users preferred PDF documents and Period had no influence over usage. The study only covered IP based electronic resources; password based or other free electronic resources were out of the study. This is the first case study on the use of electronic resources in Bangladesh, which would give Bangladeshi libraries a guidance regarding electronic resources subscription.

Keywords: E-Journal, Usage statistics, IUB, Bangladesh

Introduction

In the age of Internet and electronic resources, especially e-journals are important learning materials those are playing certainly a significant role in the library services. Digital resources provide many opportunities and challenges for libraries (Sharma and Vishwanathan, 2001; Frumkin, 2004; Liu, 2004; Kettunen, 2007). Use of Internet is increasing day by day and libraries are playing a vital role to make considerable use of Internet's numerous facilities by the researchers and students (Hollis, 1998). To-day's libraries are turning into 'access point libraries' from big warehouse type of libraries. Electronic publications are rapidly developing and changing the environment of learning (Svenningsen, 1998). In higher education electronic resources become part and parcel of the academic process (Mutula and Makando, 2003). Researchers cannot think of performing their work without adequate access to electronic resources. Many resources are available free of cost. Even if one cannot subscribe, s/he can have at least some resources from the internet without any charge from the publishers. Free resources initially fill up the need of information seekers. But higher education and research need strong base of information which is usually ensured through libraries by subscribing to

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full text databases and obviously facilitating browsing. Hollis emphasized on high performance networking for the Internet use in the academic libraries (1998). He described that Internet connection as must for all academic libraries. Electronic journals are now found cost-effective being it ensures the multiple user access at a time and eventually the price becomes acceptable to the institutions (Rowley, 2000).

Purpose of the Study

Subscription to electronic resources is a new phenomenon in library activities of Bangladesh. Confusion exists about the e-journal subscription in our country. Whether these resources are useful or just prestige symbol of the respective institutes needs to be resolved. This study is a step for eliminating confusion focusing on the usage of electronic resources in Independent University, Bangladesh (IUB). This report is basically concerned with the use of resources in IUB to find out the status of the use of electronic resources and the types of resources that are in great demand. The study may help the decision makers of the universities and higher education institutions to gauge the use and popularity of e-resources in educational environment of Bangladesh.

Study Plan and Limitation

This study is based on information received from the usage statistics of full text electronic resources providers of IUB Library. All four e-resources providers used COUNTER for statistics. It should be need that a group of publishers and librarians worked together under the umbrella of Project COUNTER to develop an internationally accepted Code of Practice that enables vendors to provide trust worthy statistics (Davis and Solla, 2003). Resources that were active in IUB in 2007 and could be reached through the university's proxy server's IP address have been taken into consideration. This focused on most-used e-journals; the format of documents that users preferred and the peak months of usage. Observing the use pattern the study tried to comprehend the position of the electronic resources in the university library.

Electronic Resources Use in Bangladesh

Bangladesh has recently been experiencing the use of electronic resources. At present libraries of Independent University, Bangladesh (IUB), Dhaka University, Jahangirnagar University, Rajshahi University, Chittagong University, North South University, East West University, BRAC University (BU), South East University, Bangladesh Council of Scientific and Industrial Research, Bangladesh Atomic Energy Commission are subscribing to electronic resources. Probably BU showed the courage first to go for pay electronic journals by subscribing Jstor in 2002. Recently the North South University is also claiming that they also started subscription to Jstor in 2002. However, the next year IUB also started to get access to Jstor through subscription. Until 2006 when International Network for Availability of Scientific Publications (INASP) opened a chapter for Bangladesh through Programme for the Enhancement of Research Information (PERI) with a view to develop a consortium for electronic resources subscription, except IUB, no other library subscribe to other electronic databases. There were some initiatives for forming consortia for acquiring electronic journals. UGC has been trying to figure out a consortium for the university libraries of Bangladesh since 2005 (Nazimuddin and Chowdhury, 2006). In the meantime Bangladesh Academy of Science successfully implemented PERI consortium.

Strength of IUB Library

The IUB Library generally serves around 3,000 students mostly undergraduate and 190 faculty members. Moreover, 203 officers and staff, 109 Trust and donor members as well as the alumni can also approach for library services. Students and faculty members are spread out in four schools – School of Business, School of Engineering and Computer Science, School of Environmental Science and Management and School of Liberal Arts and Social Sciences. The University launched its library from its inception, i.e., 1993. The IUB Library in Dhaka holds over twenty five thousands volumes which include books, back issues journals, cassettes and CD-ROMs. Currently the library has subscription to 90 print titles.

So far the electronic resources are concerned, IUB advanced a step forward compared to its peers when it started subscribing to Emerald Full Text in 2004. In 2006, IUB had a trial for INASP resources from May to December, and for ScienceDirect from August to October and in 2007 for ABI/Inform during February/March. Due to the popularity of electronic resources for business affairs IUB extended full text journals subscription in 2007 by subscribing to ABI/Inform Global from ProQuest. Besides IUB has been successfully utilizing the free resources available on the Internet, especially for the developing countries that includes Oxford University Press (OUP) Journals, Health InterNetwork Access to Research Initiative (HINARI), Access to Global Online Research in Agriculture (AGORA), Online Access to Resources in the Environment (OARE), etc. Users in IUB can access the resources of HINARI, AGORA, OARE and others through password instead of IP. However, IUB recently joined the consortium coordinated by the Academy of Sciences.

Usage of Oxford University Press Journals in IUB

IUB received permission to access OUP journals for developing countries in September 2003. Agreement between OUP and IUB ensures free access to over 150 titles. This is the first brand ‘bundle’³ of electronic resources that were made available for the IUB library users. But it was not found very popular. Through September to December in 2003 only 5 articles were read/downloaded from two titles – four documents from the Enterprise & Society: The International Journal of Business History and the other one from The Year’s Work in English Studies. Following year the use of OUP journals increased, even than it was very poor. Only 82 articles were viewed from 16 titles. ELT Journal was ranked number one being 35 documents read from this, then The Review of Financial Studies, Journal of Experimental Botany, Behavioral Ecology and Nucleic Acids Research were ranked 2nd, 3rd, 4th and 5th respectively.

In 2005 total 312 full text documents were viewed/downloaded – 285 in PDF and 27 in HTML – from 20 titles. The ELT journal again was the highest used journal. One hundred ninety five documents were viewed/downloaded only from this journal in 2005. 2nd highest is Health Promotion International from which 22 articles were downloaded only. Oxford Economic Papers, The World Bank Economic Review and The World Bank Research Observer were in 3rd, 4th and 5th positions respectively. The month September was in the peak for 92 documents and October was the second for 62 documents viewed in 2005.

In 2006, maximum documents were viewed from OUP Journals. Total viewed documents found 460 of which 391 PDF and 69 HTML from 67 titles. This year highest numbers of titles were consulted from this database. ELT Journal again hit highest which is 69, Health Policy and Planning was second for 43 articles. Family Practice, Occupational Medicine and The World Bank Economic Review were positioned 3rd, 4th and 5th respectively. In November 32 and in May

20 documents were downloaded and they placed top two periods of usage in this year. In 2007 up to August, only 69 titles were consulted by the IUB Library users and downloaded 337 articles of which 218 in PDF format and 119 in HTML format. By downloading 30 articles from Health Policy and Planning it ranked number one and second is the International Journal of Epidemiology from where 29 full text were read/downloaded in this year. Health Promotion International, ELT Journal and American Journal of Epidemiology were placed 3rd, 4th and 5th in usage ranking. By opening 66 documents in March and another 55 in April, these two months were found as two peak periods of usage.

Table-1 : Titles from Oxford University Press Journals used maximum in IUB.

Most Preferred 25 OUP journals in IUB			
Titles	Total	PDF	HTML
ELT Journal	322	297	25
Health Policy and Planning	77	71	6
International Journal of Epidemiology	60	35	25
Health Promotion International	51	25	26
The World Bank Economic Review	42	42	0
Family Practice	42	39	3
Oxford Economic Papers	36	26	10
Occupational Medicine	32	32	0
Applied Linguistics	28	22	6
American Journal of Epidemiology	25	8	17
The Review of Financial Studies	24	22	2
The World Bank Research Observer	23	23	0
The European Journal of Public Health	18	18	0
The British Journal of Social Work	18	18	0
Enterprise & Society: The International Journal of Business History	16	11	5
Journal of Tropical Pediatrics	16	16	0
Social History of Medicine	14	14	0
BJA: British Journal of Anaesthesia	13	12	1
Health Education Research	13	8	5
The Computer Journal	13	13	0
Epidemiologic Reviews	12	6	6
QJM: An International Journal of Medicine	12	8	4
Oxford Review of Economic Policy	11	11	0
Journal of Experimental Botany	11	8	3
Mathematical Medicine and Biology: A Journal of the IMA	11	11	0

One hundred one titles from OUP journals somehow consulted from the university sites since 2003. Up to 2006 there was an upward trend of usage of the resources. Table 1 shows the aggregated use of OUP journals since 2003 in IUB. Users preferred format of document was PDF. This full text database was found comparatively useful for English language, Health and Medicine. Period was not set up as a significant factor for choosing OUP Journal database.

Usage of JSTOR

JSTOR is the first subscribed full text database of IUB. Subscription was started at the end of 2003. Initially subscription was gone for Art and Science I and Business sections of the JSTOR and 115 titles were available for IUB. Immediately after the subscription it became popular. Only in February 2004 downloading was 820 full texts and in March it was 499. Total 1,981 full texts documents were downloaded in this year. PDF documents were 1,698 and 279 were in HTML format. Six hundred sixty one articles were downloaded only from the Journal of Finance, 216 were read from the American Economic Review, 202 from the Journal of Financial and Quantitative Analysis, 137 from the Journal of Business and 108 from the Journal of Political Economy. Fifty or higher number of documents were downloaded only from 8 titles in 2004. Total 61 titles were consulted from JSTOR in 2004.

In May 2005 subscription was gone for all sections of JSTOR. Among 584 titles available in JSTOR, our users consulted only 186 titles in 2005. One hundred twenty articles were downloaded from the Accounting Review, 114 from the Journal of Marketing, 93 from the Journal of Finance, 86 from the Strategic Management Journal, 60 from the Modern Language Journal. All other titles were consulted for less than 50 documents each. Total 1,689 documents were read/downloaded in this period – 1,047 were in PDF and others in HTML. Three hundred ninety eight titles were not even looked into. August and September were the two topmost usage months as 266 and 254 documents were downloaded respectively.

Of 673 titles IUB library users consulted with 408 titles in 2006. Four hundred thirty two documents were consulted from the Journal of Marketing, 328 from Journal of Finance, 258 from the Management Science and same number from the Academy of Management Journal, 211 from the Journal of Marketing Research. More than 50 documents were downloaded from 25 titles each. Two hundred sixty five titles were not opened by our users in this year. Total 6,108 documents of which 3,191 were in PDF and 2,904 were in HTML were downloaded in 2006. In November 1,359 and in April 1,330 documents were downloaded.

Table-2 : Most used 25 titles of JSTOR from 2004 to 2007.

Most Preferred 25 titles of JSTOR in IUB			
Titles	Total	PDF	HTML
Journal of Finance	1923	1389	532
Journal of Marketing	992	523	465
American Economic Review	591	402	189
Journal of Financial and Quantitative Analysis	556	402	154
Accounting Review	488	235	250

Bangladesh Journal of Library and Information Science

Titles	Total	PDF	HTML
Academy of Management Journal	458	209	248
Journal of Marketing Research	442	235	207
Management Science	407	138	269
Journal of Business	341	265	76
Academy of Management Review	338	169	169
Journal of Consumer Research	288	184	103
Journal of Money, Credit and Banking	284	178	106
Strategic Management Journal	265	117	148
Journal of Political Economy	240	166	74
Journal of Risk and Insurance	223	172	51
Theatre Journal	190	176	14
Quarterly Journal of Economics	171	101	70
Review of Economics and Statistics	166	97	69
Journal of International Business Studies	165	76	89
Journal of Accounting Research	165	78	87
Asian Survey	165	60	105
Journal of Organizational Behavior	165	100	63
Studies in Family Planning	159	78	80
MIS Quarterly	157	61	94
Review of Financial Studies	153	118	34

Of 733 titles only 494 titles were read/downloaded and 239 titles were completely untouched in 2007. This year, the Journal of Finance was consulted maximum and 1054 documents were viewed full text from this title. From the Journal of Marketing 549, from the American Economic Review 325, from the Journal of Financial and Quantitative Analysis 292 and from the Journal of Money, Credit and Banking 288 documents were downloaded. Fifty or more documents were downloaded from 49 titles each in 2007. Out of these 49 titles from 24 titles 100 or more documents were downloaded this year. Of total 11,407 full text documents 5,516 were in PDF and 5,857 were in HTML. Two thousand Five hundred seventy documents were consulted only in August and 1,630 in April.

As shown in Table 2 among 25 JSTOR titles viewed most since 2004 except 3 titles all other somehow related to business. There were some use for art, social science and health. Users, here also, preferred PDF files for their reading. JSTOR titles were getting popularity gradually. There was seen an increasing trend of variation of the titles consultation. Months with initial 'A' found busy period as both April and August placed twice each at top two usage months of the years.

Usage of ProQuest (ABI/Inform)

IUB Library has subscription to ABI/Inform – one database of ProQuest. ProQuest’s Dissertations and Theses is the highest used title of which 375 full text articles in PDF format were downloaded in 2007. Journal of Business Ethics is the second highest used journal. From this title 170 documents were opened in PDF format and 1 in HTML format. Journal of American Academy of Business, Cambridge was the third. One hundred forty one articles were opened or downloaded from it. Financial Times and The Business Review, Cambridge were 4th and 5th position in respect of usage. Though there were rights to access over 2,000 titles from ABI/Inform of ProQuest only 745 titles were consulted by the IUB users and total 3,949 documents were either read or downloaded. Except topmost six titles all others were consulted for less than 50 documents each. July is the month when maximum numbers of articles were downloaded. This time 1,262 documents were opened. By opening 778 documents in March it placed second highest period of usage.

Table 3 : Top 25 Journals used from ABI/Inform of ProQuest

Preferred 25 titles of ABI/Inform in IUB			
Titles	Total	PDF	HTML
E ProQuest Dissertations and Theses	407	407	0
Journal of Business Ethics	171	170	1
Journal of American Academy of Business, Cambridge	141	113	28
Financial Times	63	0	63
Wall Street Journal	56	0	56
The Business Review, Cambridge	56	50	6
Canadian HR Reporter	46	41	5
HRMagazine	45	39	6
Personnel Today	44	38	6
Organization Development Journal	39	38	1
Leadership & Organization Development Journal	38	37	1
Strategy & Leadership	37	35	2
Journal of Leadership & Organizational Studies	36	35	1
Strategic Finance	33	33	0
Workforce	32	29	3
EIU ViewsWire	32	0	32
Business and Society	30	28	2
HR Focus	29	26	3
Knight Ridder Tribune Business News	26	0	26
Physician Executive	26	26	0
Strategic Communication Management	25	23	2

Titles	Total	PDF	HTML
The International Journal of Bank Marketing	24	17	7
Quality Progress	23	21	2
Personnel Psychology	22	20	2
American Bankers Association. ABA Banking Journal	21	19	2

Mostly business oriented titles were consulted from this database. Table 3 contains all business related titles. Though ABI/Inform basically was a business database, it included many social science and computer related titles. Users again preferred PDF documents for their reading. ABI/Inform was in the first year of use in IUB and duly comparing period factors were absent.

Usage of Emerald

In 2006 out of 220 titles 177 titles were read from IUB site and 35,418 full text documents were either opened or downloaded. Top most five used journals were:

International Journal of Bank Marketing — 2218 full text opened

European Journal of Marketing – 1879 full text opened

New Library World – 1670 full text opened

Journal of Services Marketing – 1355 full text opened

Journal of Product & Brand Management – 1258 full text opened

Twenty two titles hit over 500 times each for full texts in 2006. vis-à-vis 37 titles were not even opened.

In 2007 out of 221 titles 174 titles were consulted for full text. 17,730 documents were downloaded only in July 2007 and 10,766 articles were in April 2007. Total 64,646 documents were consulted or opened in this year. Five top used titles were:

International Journal of Bank Marketing – 4,260 full text opened

European Journal of Marketing – 2,680 full text opened

Library Management – 2,119 full text opened

Journal of Product & Brand Management – 1,935 full text opened

International Journal of Service Industry Management – 1,848 full text opened

Table 4 : Top 25 Journals used from Emerald Full Text

Preferred 25 Emerald titles in IUB			
Titles	Total	PDF	HTML
International Journal of Bank Marketing	6478	5145	1333
European Journal of Marketing	4559	3755	804
Journal of Product & Brand Management	3193	2540	653
Journal of Services Marketing	3177	2546	631

Titles	Total	PDF	HTML
International Journal of Service Industry Management	2964	2361	603
Managing Service Quality	2745	2154	591
International Journal of Retail & Distribution Management	2654	2003	651
Library Management	2460	1050	1410
Journal of Consumer Marketing	2409	1925	484
Leadership & Organization Development Journal	2407	2023	384
Management Decision	2387	2004	383
Marketing Intelligence & Planning	2217	1810	407
Managerial Auditing Journal	2077	1775	302
Journal of Business & Industrial Marketing	1903	1635	268
New Library World	1825	643	1182
Journal of Managerial Psychology	1784	1462	322
Personnel Review	1736	1345	391
Journal of Management Development	1706	1427	279
International Journal of Social Economics	1626	1295	331
Library Hi Tech	1530	661	869
International Journal of Manpower	1505	1133	372
International Journal of Quality & Reliability Management	1378	1120	258
Industrial Management & Data Systems	1333	1112	221
Journal of European Industrial Training	1327	1104	223
International Journal of Operations & Production Management	1318	1115	203

Eighteen journals hit over 1,000 each for the full texts and 24 more journals had over 500 hits each for full texts. Another 56 (98-42) journals hit over 100 each. Fifty plus hits had 24 (122-98) more titles.

International Journal of Service Industry Management was placed 5th in the aggregated ranking though it was absent in separate yearly ranking of five top titles. Top 12th in Emerald has higher usage figure than the topmost used journal of JSTOR. Though Emerald's figure is for two years, i.e., 2006 and 2007, whereas JSTOR's figures calculated since 2004. Total 184 titles were consulted in two years from 221 titles available in the Emerald for IUB.

Report of Emerald for 2005 per journal was not available at administrative login. Only current and previous years reports for per journal per month could get from administrative login. Summary report per month for 2005 only be retrieved, but not per journal information. As per summary report 12, 340 full text documents were viewed throughout the year 2005. Information of 2004 was totally absent. Table 4 includes only combined usage figures of 2006 and 2007.

Discussion

Emerald full text database was found most popular in IUB Library. Emerald deals mainly with management. Most of the students of IUB prefer to study business courses and that would be the main reason for its popularity in this university. Of most used ten Emerald journals, nine were on business. Except three journals all others in top 25 titles were directly or indirectly on business related. Same to JSTOR, i.e. only three titles are not related to business in maximum consulted 25 titles. In ABI/Inform only one title was out of business affairs. Exception found in OUP Journals where only five titles in top used 25 titles were on business. Quite a good number of titles were related to Health and Medicine in OUP Journals' top 25 titles used.

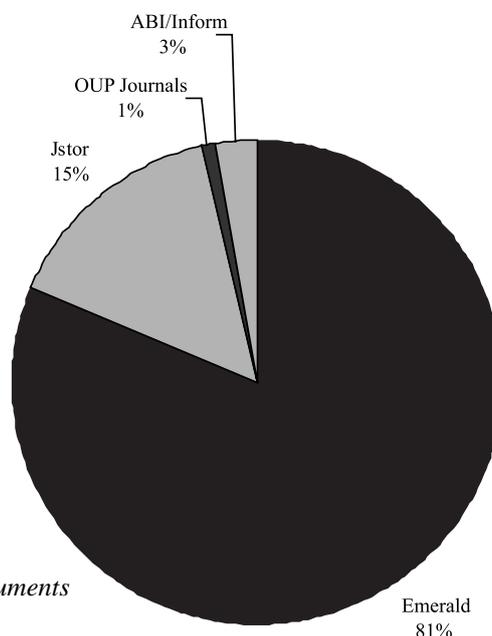


Figure 1 : Distribution of all viewed documents

Faculty members of the School of Business played an important role to link the electronic resources with their courses and that made the resources more usable. In all cases users preferred PDF files to read. The usage of Emerald titles is much more higher than any other full text databases available in IUB. Table – 5 shows that from Emerald 1,12,404 documents were viewed in IUB and second highest position that placed by JSTOR was viewed less than one fifth being 21,185 document were read from the university sites. OUP journals placed last even though it was available since 2003. Only 1% documents were viewed from OUP journals (Figure 1).

ProQuest's ABI/Inform was launched in February 2007 but users started to look into this database seriously from March. In this respect the number of usage is not bad. Figure – 2 shows that maximum titles were consulted from ABI/Inform of ProQuest. It was reported that many users preferred Emerald over ABI/Inform due to the documents format. ABI/Inform gives image format in PDF files. Due to image format it took longer time to download. In fact in management view this, images, would less efficient as this eat up the bandwidth of the university.

Table 5 : Total Documents Downloaded from Different Platforms

Platforms	2004	2005	2006	2007	Total
Emerald Insight	Information not available	12,340	35,418	64,646	112,404
JSTOR	1,981	1,689	6,108	11,407	21,185
OUP Journals	92	312	460	337	1201
ProQuest	Subscription not started	Subscription	Subscription	3,949	3,949
Grand Total	2,073	14,341	41,986	82,346	138,739

Use of Emerald database in IUB found more rational comparing to other three databases. The ratio of the topmost and the 25th documents those opened in two years from Emerald was 5:1. JSTOR's titles ratio for the same for four years was 13:1. ProQuest has strong prospect to receive users' attention being its ratio for same in only a year placed 19:1. OUP Journal titles not only received less attention in number but also had high gap between the topmost and the 25th titles, i.e., 29:1. But gradually use of OUP journals had also been increasing.

In no case period was the factor of use. It varies year to year or platform to platform. No connection was found between usage and the months of usage. December/January and May/June, i.e., in the off semesters, usage was found extremely few comparing to other months. That means that usage depends on class works given to students.

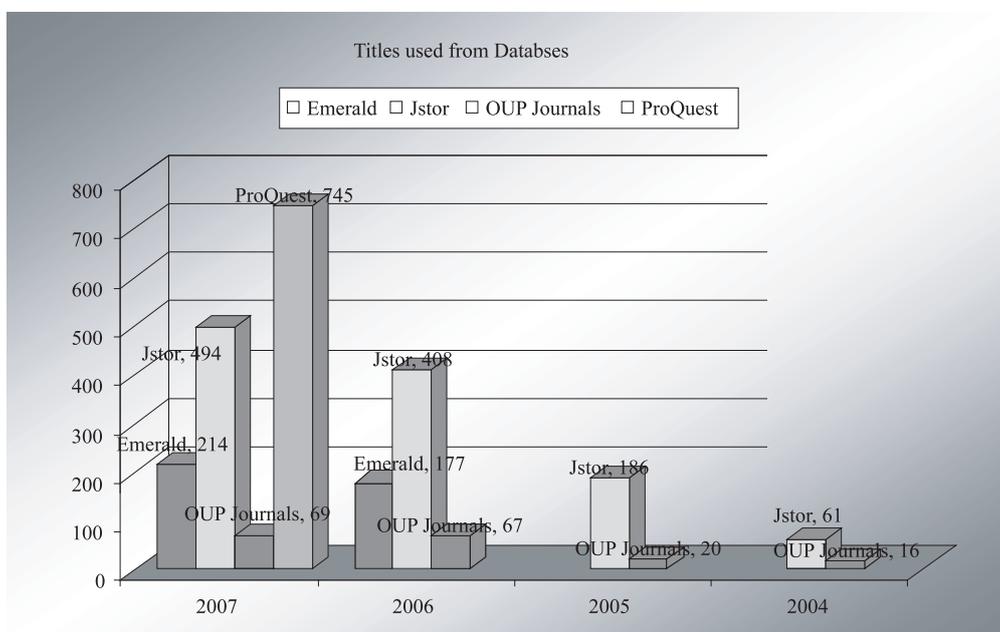


Figure – 2 : Titles used from different platforms

Phil Davis found little similarity in the uses of e-journals at undergraduate institutions (2002). Many other studies also validated Davis's findings which would be of value to collection development (Medeiros, 2005). But IUB's data differs little bit with those findings.

Except few hundred students all other students were studying at the undergraduate level in IUB. Visitors of the IUB Library were found mostly undergraduate students. All the library computers were used to keep busy by those students. It was also reported that library took the larger share of the university bandwidth. So, apparently we understood undergraduate students were the main users and the Emerald and ProQuest were heavily used by the undergraduate students of the School of Business. As JSTOR's used titles were again mostly on business affairs it is also indicating that undergraduate students made this number. In JSTOR the Journal of Finance is common in top five used titles of every year. Journal of Marketing only absent in one year's top five hit list. Three other titles – American Economic Review, Journal of Financial and Quantitative Analysis and Accounting Review – are also found common in half of the scheduled years of JSTOR for this purpose. In Emerald database International Journal of Bank Marketing and European Journal of Marketing both were 1st and 2nd respectively in both the years. Journal of Product & Brand Management is also common in top most used five titles of Emerald. May be these were common due to little options were available for choosing different other titles from IUB or due to generalization on the basis of apparent library use, not through on strict log in data.

Conclusion

Remotely accessible resources are helping libraries for growing with contents without extending its physical structures. It is now dominating world wide libraries. Electronic resources are getting importance to even small academic and public libraries and they are consuming larger share of library budgets in many cases (White, 1997). This trend cannot be ignored in our country. On the other hand, physical growth of libraries in Bangladesh in most cases is very slow. Electronic resources can play vital role to expand libraries' resources. It will be practical in to-days environment for any library to move gradually into access point library concept for the journal acquisition. The Experience of IUB Library indicates that the relevant materials have incredible use if those can be made available for the users of Bangladesh, though in case of IUB most of the users were interested on business. It needs to be examined that why other schools' users were not have interest to consult the e-resources available in IUB. Bangladesh Academy of Science has done a great job by opening a chapter for Bangladesh in PERI of INASP. If more libraries participated with the PERI than subscription for each library will come down being Academy is paying for whole Bangladesh. Subsequently, other consortia may be formed for exploring more electronic resources at an affordable price and higher education libraries, at least, will then find more users. Users will take interest for research and ultimately the country will get immense benefit.

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