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# Analytical Study of Title Wise Usage of UGC INFONET Consortium Journals at University of Hyderabad

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**Abstract** This paper discusses in detail the title wise usage in the 17 databases for which title wise usage is available. It is noticed that 100% titles usage in 4 databases. On an average for 3 years (2012-2014) 82.25% of titles are used. Most highly used databases Science Direct, ACS & JSTOR are contributing 62.96% on an average for 3 years and are in the range above 10%. The databases Wiley Black well, RSC & Springer Link which are moderately used recorded 21.02% and are in the range of above 5%. The highly used databases are from sciences. The rest of the databases which are less used are in the range of below 5% and thus contributing 16%. On an average titles with 0.22% contributed to the 27.95% usage, while 1.23% titles contributed to 22.31% usage and 98.57% titles contributed to 49.73% usage which means nearly 50% usage. Nearly 1.45% titles have contributed to 50.26%. Project Euclid is the least used database. H-index is a form of measuring the research output of Scientists. The research output of science faculty of university of Hyderabad is cited as an example. The UGC consortium is highly benefitting the Universities in increasing the research output. In order to increase the research output the UGC- INFONET consortium should group the universities using the same databases as per the high usage, moderate usage and less usage title wise and pick & choose the titles so that cost can be brought down as there are also titles unused.

**Keywords** *UGC-INFONET Consortium; University of Hyderabad; Usage; E-resources*

## 1. Introduction

The consortia can be defined as a group of organizations coming together for achieving a common goal. The main idea of forming a consortium is to come together by forming a group and achieving that which cannot be achieved individually. The ICT developments in information retrieval system and speedy access to information through technologies have made the libraries to come together for licensing the information available in digital form.

Library consortium is a group of libraries coming together with a common interest to access e resources by a number of libraries without additional fees to access number of e resources as the

member institutions can share the resources. When more and more libraries join the costs come down thereby libraries are benefitted and it is a good bargain with publishers.

### 1.2. Important Consortia

CSIR consortia: The 40 national laboratories of Council of Scientific and Industrial Research are formed to suit R&D work in the areas of Engineering, Biological, Chemical, Physical, Environmental and Information Sciences. The Indian Astrophysics Consortium named Forum for Resource Sharing in Astronomy (FORSA) is a homogeneous group of members and the libraries have a common area of interest.

Other popular consortia are namely the Indian Council of Agricultural Research (ICAR), State Agricultural Universities, Indian Space Research Organisation (ISRO), Defense Research and Development Organisation (DRDO), AICTE etc.

The Ministry of Human Resource Development (MHRD) has set up the Indian National Digital Library in Science and Technology (INDEST) Consortium. http://panit.iitd.ac.in/indest

The consortia approach to online access to e-resources plays an important role in the higher education level. As a backdrop to this situation, the UGC planned and established the information and Library Network (INFLIBNET), which is supposed to take care of networking libraries and their resources in the higher education institutions across the country.

The establishment of INFLIBNET (Information Library Networks) by UGC in 1988 is a Great achievement in the history of scholarly communication with regard to networking of academic institutions and libraries as well as resources in the country. Among the consortia the most prominent for the academic community are INDEST in 2002 and UGC INFONET E-journal consortia since 2004 launched by Dr APJ Abdul Kalam, the then President of India. These consortia have been hosting a large number of electronic resources to their member institutions. UGC -INFONET Digital Library Consortium under the auspices of UGC and the INFLIBNET (Information and Library Network) Centre, Ahmedabad emerged as gateway for reaching the academic community with the scholarly online resources in India since 2004 at free of cost. Initially provided access to online databases to 50 universities in the first phase and now has covered 421 institutions in different phases. University of Hyderabad was included in the first phase among the 50 universities.

Presently the consortium is providing online access to 11300 **plus** peer-reviewed current journals + back files, monographs through 24 full text databases, including 6 bibliographic databases covering almost all the disciplines of University of Hyderabad apart from subscription to other databases by the university covering approximately 23700 e- resources.

## 2. Review of Literature

Ever since library consortia made their way into library management scenario, many libraries have gained access to e-resources. Much of the published literature on library consortia deals with the structure and advantages; and only a few studies deal with the levels of usage. Some of the relevant papers have been reviewed for the sake of this study and are given below.

Vishala and Bhandi (2006) [8] studied the “availability of Library electronic journals through UGC-INFONET consortia and found that out of 61 full text titles available in library science 55 titles are provided by UGC- INFONET from various publishers and stated that every year more and more publishers are adding new titles and publishing e journals and thus through UGC INFONET consortia wider access to e content is provided.

Walmiki, Ramakrishna Gowda and Prithviraj (2010) [9] in their study about Awareness of UGC-INFONET consortium by the faculty members of Karnataka State Universities revealed that 35.79% of faculty members are aware of UGC- INFONET consortium and use it whereas 35.99% are aware but do not use and 24.22% are not at all aware about the UGC INFONET consortium. They found that majority of the faculty who use frequently belong to science discipline compared to social sciences and Humanities.

Mukherjee, B. and Prashant Kumar (2010) [4] observed that there is heavy demand for more e-journals although 61.90% are satisfied with the existing model of UGC- INFONET consortium in their study on "use of UGC INFONET consortium by the research scholars of Banaras Hindu University, Varanasi: A case Study". They also state that they need training and orientation for the use of e-journals. It is to mention Banaras Hindu University was covered by UGC- INFONET consortium in the first phase of 50 universities.

Dinesh, Rai and Jagdish Aurora (2010) [6] conducted a study on the "Implications of SUSHI analysis of usage statistics: A case study of UGC INFONET DIGITAL library Consortium mentioned that COUNTER (Counting Online Usage of Networked Electronic Resources) IN 2002) and SUSHI (Standardised Usage of Statistics Harvesting Initiative) are widely accepted standards for usage statistics. COUNTER does not support automated harvesting of usage data. SUSHI addresses the automatic import of usage data which saves the time of the staff.

Natarajan, K. et al. (2010) [5] revealed in his study that more than 50% of the users were of the opinion that relevance of e-journals covered by e-journals consortium was satisfactory.

Moorthy and Pant (2012) [3] made an attempt in Assessing the Use of Electronic Resources in DRDO Institutes: An analytical study of DRDO E-Journals Consortium and expressed that overall the consortium has been perceived as the major facilitator in providing the required information within the least possible time. Libraries can stop print journals and subscribe to e –journals through consortium availing deep discounts. An Amount of Rs 5 crore was saved by DRDO labs in the year 2009. This is recurring annually. The download statistics and usage analysis show that R&D community of DRDO is utilizing the resources in a positive way and left a good impact in their minds.

Doulat (2014) [2] studied the Trends in Acquisition and Usage of Indian Institute of Technology Libraries by examining web sites, annual report of Ministry of Human Resources Development, IITs and INDEST consortium and COUNTER data provided by publishers and found that E-Resources are heavily used in IITs as the number of downloads has increased from 32, 33,818 to 76, 71,691 articles reflecting a growth rate of 135% over a period of 8 years (2004-2011).

Baladhandayutham [1] (2014) attempted to know the use of UGC –INFONET journals by the faculty members, research scholars and students of Manonmaniam Sundaranar University, Tirunelveli and expressed that 80.91% of the respondents are aware of the UGC INFONET journals. Three fourths of the respondents are satisfied with the use of UGC INFONET journals. One third of the respondents use the INFONET journals daily.

From the above it is clear that the Consortia are best method for accessing e-journals and when the libraries are facing budget crisis. COUNTER & SUSHI standards are best methods for collecting usage data and knowing whether all the tiles are used or not. Hence this Particular studies.

## 3. Scope and Methodology

This paper covers the title wise usage data of UGC -INFONET CNSORTIUM of University of Hyderabad which was included by the INFLIBNET in the first phase of consortia covering 50

Universities. The University has good ICT environment and has to it's the first University Library to automate its in house operations. The University is always maintaining first five positions among other Universities in the consortium with regards to high usage. In the year as mentioned by Jagdish Aurora (2010) the highest usage for ACS in the year 2011 was recorded for University of Hyderabad and in the year 2013 the University received highest usage award for ACS in 2013 by the Publisher American Chemical Society (User meet at Hyderabad). This paper studies the title wise usage to identify highly used titles, moderately used titles, less used titles from 17 full text databases for the period of 3 years from 2012-2014 for which title wise usage statistics were available. The data was obtained from the Consortium usage portal uploaded by Publisher using SUSHI standards. The Titles are categorised as highly significant, significant and less significant titles based on their extent of full text downloads.

EPW is excluded as title wise statistics is not provided.

## 4. Objectives

- To know the percentage of Usage of titles as against availability of titles
- To observe the extent of highly used titles moderately used, less used titles.
- To know the highly significant titles, significant titles, less significant titles based on their full text downloads for each of 3 years (2012-2014).

***Table 1:*** *Titles Available Verses Titles Used for the Period 2012-2014*

| Database | 2012 Titles Available | Titles (Used) | 2013 Titles Available | Titles (Used) | 2014 Titles Available | Titles (used) | 2012-14 Average % of Used titles for 3 years |
|---|---|---|---|---|---|---|---|
| ACS | 51 | (51) | 52 | (52) | 54 | (54) | 100% |
| AIP/APS | 34 | (34) | 39 | (38) | 44 | (44) | 98.15% |
| AR (Annual Reviews) | 38 | (38) | 40 | (40) | 39 | (39) | 100% |
| CUP | 410 | (219) | 456 | (219) | 496 | (235) | 50.84% |
| IOP | 111 | (96) | 117 | (100) | 120 | (93) | 83.16% |
| JSTOR | 2150 | (1500) | 2150 | (1602) | 2400 | (1828) | 73.49% |
| Nature | 19 | (19) | 23 | (22) | 137 | (113) | 92.71% |
| OUP | 302 | (254) | 329 | (261) | 273 | ( 273) | 87.67% |
| Portland Press | 9 | (9) | 10 | (9) | 6 | (6) | 90% |
| Project Euclid | 42 | (18) | 44 | (23) | 45 | (20) | 46.52% |
| Project Muse | 564 | (408) | 581 | (435) | 614 | (448) | 73.39% |
| RSC | 47 | (44) | 51 | (46) | 51 | (47) | 92% |
| Science Direct | 1943 | (1905) | 1931 | (1749) | 1728 | (1641) | 94.53% |
| SIAM | 13 | (13) | 14 | (14) | 15 | (15) | 100% |
| Springer Link | 2731 | (1621) | 2843 | (1801) | 3091 | (1820) | 60.53% |
| Tailor& Francis | 1097 | (1097) | 1364 | (1364) | 1353 | (1353) | 100% |
| Wiley Blackwell | 2171 | (1211) | 2330 | (1280) | 2483 | (1366) | 55.24% |
| Total | 11732 | 8537 | 12374 | 9055 | 12949 | 9395 | 82.24% |

***Table 2:*** *Percentage of Downloads Against Total Downloads for the Period 2012-14*

| Database | 2012 % of Downloads to total downloads | 2013 % of Downloads to total downloads | 2014 % of Downloads to total downloads | Average % of downloads for 3 years from 2012-2014. |
|---|---|---|---|---|
| **ACS** | **145423 (16.59%)** | **155284 (17.21%)** | **145715 (15.07%)** | **(16.29%)** |

| | | | | |
|---|---|---|---|---|
| AIP/APS | 29334 (3.35%) | 32644 (3.62%) | 29924 (3.09%) | (3.35%) |
| AR | 8775 (1.0 %) | 10884 (1.21%) | 6520 (0.67%) | (0.96%) |
| CUP | 5189 (0.59%) | 4352 0.48%) | 7086 (0.73%) | (0.6%) |
| IOP | 12068 (1.38) | 12706 1.41%) | 11447 (1.18%) | (1.32%) |
| **JSTOR** | **129054 (14.72)** | **139387 (15.45%)** | **152509 (15.77%)** | **(15.31%)** |
| Nature | 9703 ( 1.11) | 17492 1.94%) | 40379 (4.17%) | (2.41%) |
| OUP | 27321 (3.12%) | 22294 (2.47%) | 28554 (2.95%) | (2.85%) |
| Portland Press | 2113 (0.24 %) | 1182 (0.13%) | 1439 (0.15%) | (0.17%) |
| Project Euclid | 63 (0.01 %) | 91 (0.01%) | 81 (0.01%) | (0.01%) |
| Project Muse | 10013 (1.14%) | 12577 (1.39%) | 9310 (0.96%) | (1.16%) |
| RSC | 50561 (5.77%) | 53502 (5.93%) | 60884 (6.29%) | (6.0%) |
| **Science Direct** | **300797 (34.32%)** | **268989 (29.82%)** | **289452 (29.93%)** | **(31.36%)** |
| SIAM | 53 (0.01 %) | 290 (0.03%) | 282 (0.03%) | (0.02%) |
| Springer Link | 42870 (4.89%) | 64078 (7.10%) | 57651 (5.96%) | (5.98%) |
| Tailor& Francis | 20779 (2.37%) | 27254 (3.02%) | 39254 (4.06%) | (3.15%) |
| Wiley Blackwell | 82431 (9.40%) | 79029 (8.76%) | 86698 (8.96%) | (9.04%) |
| **Total downloads** | **876547 (100%)** | **902035 (100%)** | **967135 (100%)** | 100 % |

## 5. Analysis of Data

It is noticed from the Table 1, as per availability of titles that there is 100% usage of titles in the 4 databases ACS, AR, SIAM & Taylor & Francis on an average for 3 years. The 12 databases AIP/APS, CUP, IOP JSTOR Nature, OUP, Portland Press, Project Muse, RSC, Science Direct, and Springer Link & Wiley Blackwell are in the usage range of 98.15% to 50.84% thus accounting for more 50% usage. Only one database Project Euclid is below 50% usage i.e. 46.52%.

In the Table 2 for year 2012 science direct recorded 34.32% usage followed by ACS 16.59% and JSTOR 14.72% thus contributing 65.63% to the total and Wiley Blackwell 9.40%, Springer Link 4.89% and RSC 5.77% contributing 20.06% and other 11 databases contributing to 14.52%. In the year 2013 Science direct recorded 29.82% followed by ACS 17.21% and JSTOR 15.45% contributing 62.48% to the total and Wiley Blackwell 8,76% Springer Link 7.10% RSC 5.93% contributing 21.79% and other databases 11 databases contributing 15.71%. In the year 2014 Science direct recorded 29.93% followed by JSTOR 15.77% and ACS 15.07% contributing 60.67% to the total and Wiley Blackwell 8.96% followed by RSC 6.29% and Springer Link 5.96% contributing 21.21% to the total percentage and other 11 databases contributing 18%.

Science direct has always been retaining the first position but for next two years comparatively the downloads are lesser than 2012 because in the year 2012 the library had subscribed for additional 13

subject collection which increased the usage and downloads for Science direct. In the year 2014 JSTOR occupied the second position followed by ACS. Similarly the priority changed followed by Wiley Blackwell, RSC and Springer Link.

In the Table 2 on an average % for 3 years (2012-2014) the three databases Science direct, ACS & JSTOR recorded 62.96% and are in the range above 10%. The databases Wiley Black well, RSC & Springer Link recorded 21.02% and are in the range of above 5%. The rest of the databases are in the range of below 5% and thus contributing 16%.

Thus the three databases Science direct (31.36%), ACS (16.29%) & JSTOR (15.31%) are considered to be highly used databases totalling to 62.96%. Wiley Blackwell (9.04%), RSC (6.0%) & Springer Link (5.98%) are considered to be moderately used databases totalling to 21.02% and rest 11 databases are considered to be less used databases totalling to 16%. Among the 11 it is to mention that Project Euclid is the least used database contributing to 0.01% among the 11.

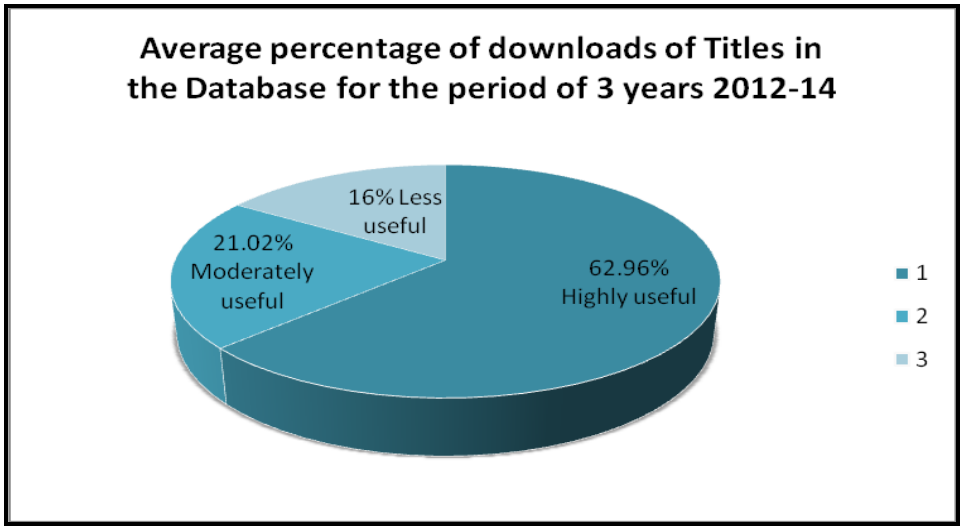


***Figure 1:*** *Pie Chart Depicting the Average Percentage of Downloads of Highly Useful, Moderately Useful and Less Useful Databases*

***Table 3:*** *Title Wise Usage Based on Downloads for 3 Years*

| Databases /Downloads(DL) | | 2012 | | | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 5000 above | 1000-4999 | 1-999 | 5000 above | 1000-4999 | 1-999 | 5000 above | 1000-4999 | 1-999 |
| ACS | Titles | 6 | 18 | 25 | 7 | 16 | 28 | 6 | 17 | 31 |
| | DL | 101372<br>69.71% | 38009<br>26.14% | 6042<br>4.15% | 110569<br>71.20% | 34975<br>22.52% | 9740<br>6.27% | 100415<br>68.91% | 35694<br>24.50% | 9606<br>6.59% |
| AIP/APS | Titles | 1 | 7 | 25 | 2 | 6 | 31 | 2 | 6 | 36 |
| | DL | 5302<br>18.49% | 19677<br>66.77% | 4355<br>14.73% | 12445<br>31.86% | 15613<br>54.28% | 4586<br>13.86% | 11944<br>34.97% | 14038<br>52.09% | 3942<br>12.94% |
| Annual Reviews | Titles | - | 1 | 37 | - | 3 | 37 | - | - | 39 |
| | DL | - | 1377<br>15.69% | 17550<br>84.31% | - | 4797<br>44.07% | 6087<br>55.93% | - | - | 6520<br>100% |
| CUP | Titles | - | - | 219 | - | - | 236 | - | 2 | 233 |
| | DL | - | - | 5189<br>100% | - | - | 4352<br>100% | - | 2427<br>34.25% | 4659<br>65.75% |
| IOP | Titles | - | 3 | 93 | - | 3 | 97 | - | 4 | 89 |
| | DL | - | 4554<br>37.74% | 7514<br>62.26% | - | 4554<br>35.84% | 8152<br>64.16% | - | 5493<br>47.99% | 5954<br>52.01% |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| JSTOR | Titles | 1 | 5 | 1494 | 2 | 8 | 1592 | 2 | 11 | 1815 |
| | DL | 26207<br>20.24% | 10534<br>8.13% | 92763<br>71.63% | 25801<br>18.51% | 17203<br>12.34% | 96383<br>69.15% | 25790<br>16.91% | 23807<br>15.61% | 102912<br>67.48% |
| Nature | Titles | 1 | - | 18 | 1 | 3 | 19 | 1 | 7 | 105 |
| | DL | 7254<br>74.76% | - | 2449<br>25.24% | 8093<br>46.27% | 3134<br>17.92% | 6265<br>35.82% | 11051<br>27.37% | 15368<br>38.06% | 13960<br>34.57% |
| OUP | Titles | - | 5 | 249 | - | 4 | 257 | - | 4 | 269 |
| | DL | - | 10586<br>38.75% | 60735<br>61.25% | - | 8321<br>37.32% | 13973<br>62.68% | - | 10210<br>35.76% | 18344<br>64.24% |
| Portland Press | Titles | - | 1 | 8 | - | - | 9 | - | 1 | 5 |
| | DL | - | 1358<br>64.27% | 755<br>35.73% | - | - | 1182<br>100% | - | 1046<br>72.69% | 393<br>27.31% |
| Project Euclid | Titles | - | - | 18 | - | - | 23 | - | - | 20 |
| | DL | - | - | 63<br>100% | - | - | 91<br>100% | - | - | 81<br>100% |
| Project Muse | Titles | - | 2 | 406 | - | 1 | 434 | - | 1 | 447 |
| | DL | - | 2677<br>26.74% | 7336<br>73.26% | - | 1422<br>11.31% | 11155<br>88.69% | - | 1375<br>14.77% | 7935<br>85.23% |
| RSC | Titles | 2 | 8 | 34 | 3 | 7 | 36 | 3 | 11 | 37 |
| | DL | 22985<br>45.46% | 21965<br>43.44% | 5611<br>11.10% | 27609<br>51.60% | 18247<br>34.11% | 7646<br>14.29% | 29290<br>48.14% | 25109<br>41.27% | 6445<br>10.59% |
| Science direct | Titles | 4 | 50 | 1851 | 3 | 42 | 1704 | 4 | 45 | 1592 |
| | DL | 57894<br>19.25% | 80945<br>26.91% | 161958<br>53.84% | 49104<br>18.26% | 76006<br>28.26% | 143879<br>53.49% | 54086<br>18.69% | 81587<br>28.18% | 153779<br>53.13% |
| SIAM | Titles | - | - | 13 | - | - | 14 | - | - | 15 |
| | DL | - | - | 53<br>100% | - | - | 290<br>100% | - | - | 222<br>100% |
| Springer Link | Titles | - | 1 | 1620 | - | 3 | 1798 | - | 3 | 1817 |
| | DL | - | 2599<br>6.06% | 40271<br>93.94% | - | 3684<br>5.75% | 60394<br>94.25% | - | 4360<br>7.56% | 53291<br>92.44% |
| Taylor & Francis | Titles | - | 1 | 1096 | - | 1 | 1363 | - | 4 | 1349 |
| | DL | - | 1701<br>8.19% | 19078<br>91.81% | - | 2946<br>10.81% | 24308<br>89.19% | - | 4224<br>10.76% | 35030<br>89.24% |
| Wiley | Titles | 3 | 4 | 1204 | 3 | 3 | 1274 | 3 | 5 | 1358 |
| | DL | 34425<br>41.76% | 5432<br>6.59% | 42574<br>51.65% | 34747<br>43.97% | 5861<br>7.42% | 38421<br>48.62% | 33795<br>38.98% | 7766<br>8.96% | 45137<br>52.06% |
| **Total** | **Titles** | **18** | **106** | **8410** | **21** | **100** | **8952** | **21** | **121** | **9257** |
| | **DL** | **255439** | **201414** | **474296** | **268368** | **196763** | **436304** | **266371** | **232504** | **468210** |

The Table 3 shows that, in the year 2012, the total titles above 5000 range for all the data bases are 18 with downloads of 255439. In the range of 1000-4999, the total titles are 106 with downloads of 201414. In the range of 1 - 999, the total titles are 8410 with downloads of 474296.

In the year 2013, the total titles above 5000 range for all the data bases are 21 with downloads of 268368. In the range of 1000-4999, the total titles are 100 with downloads of 196763. In the range of 1 - 999, the total titles are 8952 with downloads of 436304.

In the year 2014, the total titles above 5000 range for all the data bases are 21 with downloads of 266371. In the range of 1000-4999, the total titles are 121 with downloads of 232504. In the range of 1 - 999, the total titles are 9257 with downloads of 468210.

Heavy downloads with more number of titles are noticed in the range of 1- 999 followed by heavy downloads in the range of above 5000 with less number of titles and finally moderate number of titles with moderate downloads in range of 1000 – 4999.

***Table 4:*** *Highly Significant, Significant & Less Significant Titles Based on Downloads*

| Year | Highly Significant >5000 downloads | No of Titles/ (Database) | Significant 4999-1000 downloads | No of Titles/ (Database) | Less Significant <1000 downloads | No of Title/ (Databases) |
|---|---|---|---|---|---|---|
| 2012 | 255439 | 18 (7) | 201414 | 106 (13) | 474296 | 8410 ( 17) |
| 2013 | 268368 | 21 ( 7) | 196763 | 100 ( 13) | 463304 | 8952 ( 17) |
| 2014 | 266371 | 21 ( 7) | 232504` | 121 (14) | 468210 | 9257 (17) |
| Total | **790178** | **60 (21)** | **630681** | **327 (40)** | **1405810** | **26619 (51)** |
| Average% | **263393** | **20 ( 7)** | **210227** | **109 (13)** | **468603** | **8873 (17)** |
| For 3 years | **27.95%** | **0.22%** | **22.31%** | **1.23%** | **49.73%** | **98.57%** |

It is noticed from Table 4 that 18 titles from 7 databases considered to be highly significant contributed to 255439 downloads in the year 2012. The number of **highly significant titles** increased from 18 to 21 titles from 7 databases contributing to 268368 downloads in the year 2013. Again 21 titles from 7 databases contributed to 266371 download in the year 2014.

In the year 2013 titles 106 from 13 databases considered to be significant contributed to 201414 downloads followed by 100 **significant titles** from 13 databases contributed to 196763 downloads in the year 2013 and 121 significant titles from 14 databases contributed to 232504 downloads in the year 2014.

While in the year 2012 titles 8410 considered to be **less significant** from 17 databases contributed to 474296 downloads. In the year 2013 titles 8952 titles from same 17 databases contributed to 463304 downloads. While in 2014 titles 9257 from 17 databases contributed to 468210 downloads. In this category all the 17 databases under study are used.

This clearly indicates that 0.22% of titles contributed to the27.95% usage, while 1.23% titles contributed to 22.31% usage and 98..57% titles contributed to 49.73% usage which means nearly 50% usage.

As an example through web of science research output of science faculty in the form of h-index is shown in the chart. H-index measures research output based on the citations of the authors. If an author's h –index is 6 it means that each of his paper must have been cited at least 6 times. Number of papers = No of citations.

Research Output of Science Faculty in the form of h-Index at University of Hyderabad (from 1996-2015)

***Table 5:*** *Research Output of Science Faculty in the Form of h-index*

| S. No. | Name of the faculty | Subject | h-index |
|---|---|---|---|
| 1 | Reddanna | Animal Sciences | 28 |
| 2 | Babu P.P | Animal Sciences | 14 |
| 3 | Dutta Gupta A | Animal Sciences | 14 |
| 4 | Ramaiah K V A | Biochemistry | 12 |
| 5 | Mitra C K | Biochemistry | 10 |
| 6 | Samantha A | Chemistry | 97 |
| 7 | Nangia A | Chemistry | 56 |
| 8 | Desiraju G R | Chemistry | 71 |
| 9 | Radhakrishnan T P | Chemistry | 27 |
| 10 | Basavaiah D | Chemistry | 38 |
| 11 | Periaswamy M | Chemistry | 17 |

| | | | |
|---|---|---|---|
| 12 | Kaul S.N | Physics | 25 |
| 13 | Pathak A P | Physics | 16 |
| 14 | Sunandana C S | Physics | 14 |
| 15 | Chaturvedi S | Physics | 47 |
| 16 | Rao D N | Physics | 37 |
| 17 | Raghavendra Rao C | Plant Sciences | 3 |
| 18 | Prasad MNV | Plant Sciences | 28 |
| 19 | Kirti P B | Plant Sciences | 22 |
| 20 | Reddy A R | Plant Sciences | 31 |

**Source:** Web of Science

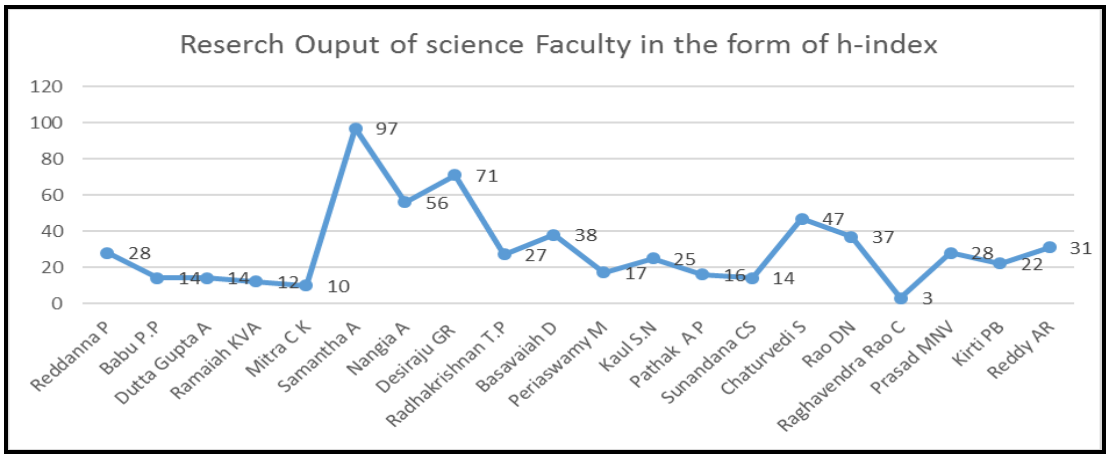


***Figure 2:*** *Chart Depicting the h-index of Science Faculty of University of Hyderabad*

## 6. Findings and Interpretation

- As per the availability of titles that there is 100% usage of titles in the 4 databases ACS, AR, SIAM & Taylor & Francis on an average for 3 years. The 12 databases AIP/APS, CUP, IOP JSTOR Nature, OUP, Portland Press, Project Muse, RSC, Science Direct, and Springer Link & Wiley Blackwell are in the usage range of 98.15% to 50.84% thus accounting for more 50% usage. Only one database Project Euclid is below 50% usage i.e. 46.52%.

- On an average % for 3 years (2012-2014) the three databases Science direct, ACS & JSTOR recorded 62.96% and are in the above 10% range. The databases Wiley Black well; RSC & Springer Link recorded 21.02% and are in the range of above 5%. The rest of the databases are in the range of below 5% and thus contributing 16%.

- The three databases Science direct (31.36%), ACS (16.29%) & JSTOR (15.31%) are considered to be highly used databases totalling to 62.96%. Wiley Blackwell (9.04%), RSC (6.0%) & Springer Link (5.98%) are considered to be moderately used databases totalling to 21.02% and rest 11 databases are considered to be less used databases totalling to 16%. Science direct is the most highly used database ranking first always. Among the 11 it is to mention that Project Euclid is the least used database contributing to 0.01% and can be treated as unused database.

- According to Table 3 heavy downloads with more number of titles are noticed in the range of 1-999 followed by heavy downloads in the range of above 5000 with less number of titles and finally moderate number of titles with moderate downloads in the range of 1000 – 4999 for all the three years.

- It is observed from table 4 on an average that 20 titles from 7 databases are in the range of above 5000 downloads contributing to 27.95% usage and treated as highly significant titles, 109 titles from 13 databases are in the range of 4999-1000 downloads contributing to 22.31% usage and can be treated as significant titles and 8873 titles from 17 databases are in the range of below 1000 contributing to 49.73% usage and can be treated as less significant titles.

- On an average 98.57% titles contributed to 49.73% usage which means nearly 50% usage. Nearly 1.45% (0.22+1.23 %) titles have contributed to 50.26%.

## 7. Conclusion

When Universities were facing serials crisis the UGC through INFLIBNET helped many Universities to have access to scholarly information and helped in the infrastructure by providing funds for establishing networking environment and internet facilities so that the Universities can access the INFONET journals through UGC- INFONET Consortium. This was a blessing in disguise to all the Universities facing budget crunch and increasing prices of journals and fluctuating currency rates. The data and inferences obtained in this paper shows that most of the databases concentrating on sciences are highly used which depicts that science disciplines highly use these databases. As Arora, Kruti & Trivedi [1] in their paper on “Impact of access to e-resources through the UGC-INFONET Digital Library Consortium on research output of member universities” stated that while increase in research output in all three major subject disciplines, i.e. science, social science and arts and humanities, increase in research output is significantly higher in science, compared to the other two disciplines. Moreover, a strong positive correlation is found between the number of articles downloaded by the 50 universities from e-resources accessible to them through the consortium and research articles published by them. University of Hyderabad is included in these 50 Universities wherein university of Hyderabad is ranking among the first 10 most productive universities in terms of research articles. Hence as an example the research output of top science faculty in the form of h-index of University of Hyderabad is cited ranging from 97-3.

The preferences of titles may vary in different Universities so the consortium should group the universities using the same databases as per high usage, moderate usage and less usage and try to save the cost by selecting pick and choose the title packages or databases commonly used by member universities. Consortium should look into the titles that are not much used and try to revamp the titles in the light of usage considering all the Universities.

## References

[1] Arora Jagdish, Kruti J. Trivedi and Kembhavi, Ajit. *Impact of Access to E-Resources through the UGC-INFONET Digital Library Consortium on Research Output of Member Universities.* Current Science. 2013. 104 (3) 307-311.

[2] Baladhandayudam, A. *Use of UGC- INFONET Journals by the Faculty Members, Research Scholars and Students of Manonmaniam Sundaranar University, Tirunelveli: A Study, Bangalore: Sarada Ranganathan Endowment For Library Science.* SRELS Journal of Information Management. 2014. 51 (6) 399-402.

[3] Jotwani, Doulat. *Trends in Acquisition and Usage of Electronic Resources at Indian Institutes of Technology Libraries.* Annals of Library and Information Studies. 2014. 61 (3) 33-40.

[4] Moorthy, A.L. and Pant, Ankur. *Assessing the Use of Electronic Information Resources in DRDO Institutes: An Analytical Study DRDO E-Journals Consortium.* Annals of Library and Information Studies. 2012. 59 (9) 200-203.

[5] Mukerjee, Bhasker and Prashant Kumar. *Use of UGC- INFONET E-Journals by the Research Scholars of Banaras Hindu University, Varanasi: A Case Study.* Annals of Library and Information Studies. 2010. 57 (12) 339-345.

[6] Natarajan, K. et al. *Use and User Perception of Electronic Resources in Annamalai University: A Case Study.* Annals of Library and Information Studies. 2010. 57 (3) 60-63.

[7] Pradhan, D.R., Rai, A.K. and Aurora, J. *Implications of SUSHI for Analysis of Usage Statistics: A Study of UGC-INFONET Digital Library Consortium.* Annals of Library and Information Studies. 2012. 59 (9) 189-193.

[8] Vishala, B.K. and Bhandi, M.K. *Availability of Library and Information Science Electronic Journals through UGC-INFONET Project.* Annals of Library and Information Studies. 2006. 53; 66-69.

[9] Walmiki, R.H., Ramakrishna Gowda, K.C. and Prithviraj, K.R. *Awareness of UGC Digital Library Consortium by the Faculty Members of Karnataka State Universities.* Annals of Library and Information Studies. 2010. 57 (3) 33-43.

**Websites**

1. http://panit.iitd.ac.in/indest
2. http://www.inflibnet.ac.in/econ/stat/welcome.php
3. http://igmlnet.uohyd.ac.in:8000/