Sustenance of the Consortia Subscription to E Resources: Role of Metrics

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Abstract

With the forging and making operational consortia subscription of E resources, beginning with journals, by various Academic and Government R&D organizations in the country, there is an immediate need to formulate standard metrics for the analysis of the usage of such resources. In the subsequent phase the outcomes of the analysis can be co-related against various parameters to develop performance measures as relevant to the consortium members. These performance measures can then be used to benchmark against the 'leaders' and action item for improving the average usage across the consortium. Ultimately translating into a justifiable ROI – not necessarily in money terms. Unlike in the physical subscription, such measurements and analysis is an intrinsic benefit in E subscription and must be fully utilized. This paper will generally discuss the utility of metrics , prevailing practices of a few E content providers and lay down broad parameters to serve as a basis for evolving a standard set of E metrics.

Keywords : Consortia, Metrics, Infomediary, Sustenance, Statistics, Knowledge, Productivity

0.   Consortia subscription is here to stay

The drivers for the consortia movement have mainly been : Costs, Technology and Productivity. While abroad such library consortia are in service for the past many decades, their history in this country is only of a few years. The reasons being pretty obvious: availability of the ICT infrastructure and realization of the common good that would come about – Cost vs. Benefit.

Some of the specific points favouring the optimal cost of consortia subscription are:

- Optimal pricing
- Reduced overheads
- Simpler budgeting
- Easier apportioning or allocation of costs
- Facilitates an early transition to becoming a profit center
- Fixed 'price tenures'
- Deeply discounted print options
- Archival and perpetual access possibilities
- Differential pricing models

Productivity is the mantra of the day and will continue to be for all times to come. It will mean not only doing the things rightly all the time but also doing the right things. The typical library consortia would entail servicing user by the best utilization of available resources. This will call for efficient processes and systems to be in place to make available and maintain content, provide for its speedy and wide access by authenticated users and most importantly sharing such resources across the consortia members.

Apart from the Government- Management/Funding agencies, the consortia would necessarily interact with the user and publisher groups. In the case of the latter either directly or though intermediaries. Consortia management is a delicate proposition because of the requirements for :

- Mutual respect and high level of 'intra' cooperation
- 'Shedding' of autonomy and making compromises
- Effective discharge of the role and responsibilities of the coordinators
- Infrastructure and 'after sales' support
- Sustaining the interest

As such it calls for :

- Effective use of the consortia resources
- Enhancing skills and talents
- Well coordinated and efficient administration
- Periodic sharing of experiences and concerns for sustenance
- Continuous research and briefing of publisher developments

Particularly for the effective use of the consortia resources , relevant metrics can be suitably designed to capture the performance levels, analyze and take corrective actions and then benchmark against 'top of the class' standards . The online usage statistics provide a basis for:

1. Libraries and Users

- Accurate mapping of the resource requirements by patrons
- Effective provision of such resources
- Budgeting
- Proper allocation of expenditure
- Benchmarking within the institution/consortium

2. Publishers

- Marketing and Promotion
- Developing new (consortia) pricing models
- Support libraries in securing funding
- Help libraries graduate to 'best of breed' knowledge centers
- Improved market analysis
- Effective provision of such resources

3. The need to measure and analyze usage

The natural progression after providing for cost- effective and valuable E resources is to measure and analyze their usage, link them to specific performance measures and ensure that these measures are met or exceeded . The primary objective is the to maximize the effective utilization of E resources by

benchmarking the best practices and thereafter co-relating the usage of such E resources to performance measures and thereby demonstrating the impact of their utilization.

As compared to hardcopy version , the E version of subscription to higher academic resources is increasing substantially. Their inherent advantage in cost-effective consortia subscription makes them an attractive alternative. With such increasing usage , statistics would play an important role in the monitoring and planning of their procurement and utilization.

Usage statistics will help :

- Understand their usage vis-à-vis print resources
- Help cost-effective utilization
- Lay emphasis on quantitative measurements
- Lead to the development of performance measures
- Form a basis for the justification of investment

Quantitative data about usage will help make decisions in line with the library objectives and relate to verifiable outcomes.

The following could be a basis while formulating   the set of usage parameters:

- Type
- Purpose
- Utilization – present
- Utilization - future

These metrics could belong to the following categories:

❖ Accessibility

  - E databases
  - E journals(full text)
  - E books
  - E references

❖ Usage

  - Logins
  - Denials
  - # of web pages accessed
  - # high/low usage web pages
  - IP based # of sessions/usage per content type
  - # of downloads
  - # of transactions
  - Response time
  - Connect time

- ❖ Users
  - Students- UG/PG/Doctoral..
  - Faculty
  - Visitors

- ❖ Costs
  - E database subscription
  - E journal subscription
  - E book subscription
  - Document delivery
  - Search services
  - Other

The use of such statistics and their analysis could be for:

- E database/journal renewal/cancellation
- Changes in SIMOs
- Reporting, budgeting and strategic planning
- Peer comparison
- Service improvements – access, functionality and training

4.   Emetrics - Issues and Challenges

While finalizing the usage parameters and their methods of collection the emphasis should be on reliability and the ease with which such statistics can be compared across user groups and thereafter co-relate them to the user groups' output.

Usage statistics are not standardized, their format and frequency of delivery is of a wide variety. Changes in the nature of the services may call for new types of metrics. Few vendors may not be willing or able to provide such data. There must be a coordinated and designated methodology in the collection and analysis of such usage data. The unbundling of the usage data may also not be always possible – journal wise or particular content wise. These statistics may also be relevant in a particular timeframe and may need to be modified.

The statistics are mainly reported in terms of :

- Sessions
- Content accessed/downloaded
- Searches
- Hits
- Documents ordered
- Usage time
- Denials(turnaways).

These could be organized on the basis of entire database or individual journals and the format could be either text or HTML . The frequency of reportage is generally monthly or quarterly. Vendors normally provide links to users for an independent access to their statistics. However, it is found that there is a considerable variation in the statistics, their format, definition and the way they are delivered.

In consultation with key vendors and user groups, relevant metrics/performance measures can be continuously developed and their maintenance and analysis expressly earmarked. While identifying these parameters attention need to be given to the target audience and the purpose of evaluation of the usage of the E resources. Equally, thought must be given to the best method of reporting such statistics and establishing the relationship between this data and the quantifiable outcomes from the user institutions. The ICOLC Guidelines as given in APPENDIX-A are a noteworthy effort to bring in some standardization in the reporting of the usage statistics by various vendors.

5.   IEEE/IEE- Electronic Library-IEL Usage Statistics in the INDEST Consortium

Being the exclusive distributor for IEEE in India for the past many decades , Global Information Systems Technology Pvt. Ltd.(GIST) took the lead in facilitating the cost – effective access to the IEEE/IEE- Electronic Library-IEL by the wider academic community. As a first step in this direction GIST put forward a conceptual outline and proposal to the Ministry of Human Resource Development(MHRD), Government of India in December, 2001. This was followed up with seminars and detailed proposals in consultation with IHS and IEEE. Meanwhile the proactive approach of the MHRD and the general support from the user community led to, after protracted discussions and negotiations, the finalization of the subscription order for IEL(together with other key electronic resources) for a total of 38 institutions of higher academic learning. These were grouped under three categories depending on their education and research activities.

- Category I : IITs and IISc –total 8
- Category II : RECs / NITs (17), ISM, Dhanbad, SLIET and NERIST –total 20
- Category III: All IIMs, IIIT (Allahabad), IIITM (Gwalior), PEC and NITIE –total 10

With the addition of Government Engineering Colleges(60) from AICTE and a few other institutions the present subscription to IEL through the INDEST consortium stands as : 8, 26 and 77 for categories I, II and III respectively.

As an important part of our responsibility to provide continuous support for the trouble free access to a valuable resource such as IEL, GIST has been:

- Assisting in installation and activation of IEL
- Resolving specific queries to ensure trouble free access
- Providing demonstrations at various user sites
- Disseminating updated promotional material
- Analyzing usage statistics

GIST is regularly working on analyzing online usage statistics and thereafter work towards its use in optimizing the utilization through extended training and help desk facilities.
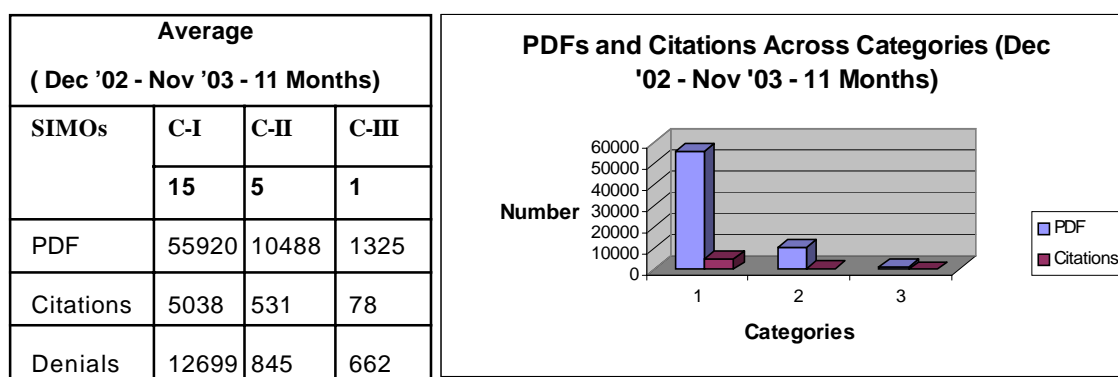
As of date, the analysis has included the period from the formal commencement of access to IEL by the INDEST consortium members i.e. December 2002 and up to the availability of the data i.e. November,

2003. For simplifying the analysis the monthly data have been cumulated across the 11 month period. Exceptions on account of improper/unexplained usage – as highlighted have been ignored so as to avoid abnormal outcomes.

The analysis has particularly looked at the utilization of IEL in terms of the three standard metrics provided by IEEE namely : PDF (full text) downloads, citations viewed and denials on account of the allocated SIMOs(simultaneous access sessions) having been occupied. The allocated SIMOs are Category I - 15, II – 5 and III – 1

This analysis and resulting observations are recorded within and across each categories.

While an extensive analysis has been done, for the purpose of illustration we give below the brief comparison across categories.

Average (Dec '02 - Nov '03 - 11 Months)			
SIMOs	C-I	C-II	C-III
	15	5	1
PDF	55920	10488	1325
Citations	5038	531	78
Denials	12699	845	662

PDFs and Citations Across Categories (Dec '02 - Nov '03 - 11 Months)

The distribution of Citations versus PDFs across Categories I, II and III has been 8%, 5% and 6% respectively. This indicates a uniform utility ratio.

The PDF per SIMO across C-I, C-II and C-III is 3728, 2097 and 1325 respectively.

The Citation per SIMO across C-I, C-II and C-III is 336, 106 and 78 respectively.

The denial per SIMO across C-I, C-II and C-III is 846, 169 and 662 respectively.

The above per SIMO figures indicate scope for optimal utilization

6.   Conclusions

In this paper a modest attempt has been made to highlight the importance of formulating uniform metrics for the monitoring and continuous improvement in the utilization of the various E resources. The author has tried to draw attention to the need for users and vendors to get together and arrive at a 'common' set of usage parameters. The key role of the vendors in providing usage statistics has been emphasized. This raw or, semi-processed data when submitted as per a standard format and delivery method would enable the users to manipulate further , if necessary. Work may also being done in designing systems and processes to be independent with respect to the statistics being provided by the vendors.The author is of the firm opinion that an effectively analysis of the usage data will become imperative in the medium to long term to sustain the consortia subscription to e Resources.

With different consortia being forged and many others at various stages of formation , it will become increasingly necessary to have standardization in the identification and use of metrics for the measuring e Resource usage. Funding agencies, consortia coordinators, key user groups, professionals and major vendors of E content must work together to formulate guidelines for the standardization of usage reporting. And these must be relevant in the Indian context.

7.   References

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3. Vendors' role in the sustenance of the consortia subscription to E Resources – A Case Study of IEEE/ IEE- Electronic Library-IEL in the INDEST Consortium by Ashok Chawla and M.Vishwanath (ICDL-2004 accepted for presentation)

4. http://www.library.yale.edu/consortia/webstats.html

Appendix-1

Level of Vendor Compliance to the ICOLC Guidelines

The ICOLC guidelines are widely recognized as the acceptable practice by both the library and vendor communities. The guidelines, drafted in November 1998 by the International Coalition of Library Consortia (ICOLC), have the following five use elements that a vendor report needs to provide :

- Number of queries (Searches) categorized as appropriate for the vendor's information. A search is intended to represent a unique intellectual inquiry. Typically a search is recorded each time a search form is sent/submitted to the server.

- Number of Menu Selections : Categorisex appropriated to the vendor's system. If display of data is accomplished by browsing (use of menus), the measure must be provided (e.g. an electronic journal site provides alphabetic and subject-based menu options in addition to a search form. The number of searches and the number of alphabetic and subject menu sleections should be tracked).

- Number of sessions (login) : if relevant, must be provided as a measure of simultancous use. it is not a substitute for either query or menu selection counts.

- Number of turn-aways : If relevant, as a contract limit, (e.g. requests exceed simultaneous user limit)

- Number of Item examined (i.e. viewed, marked or selected, downloaded, emailes, printed) to the extent these can be recorded and controlled by the server rather than the browser :

Table 10 provides an estimated compliance level for each vendor included in the comparison. Due to the lack of definitions and the exact nature of licensing and ddatabase characteristics, it is impossible at this point to complete the table. Nonetheless it shows that this group of vendors appear to provide a ssubset of core measures closely aligned with the ICOLC guidelines. There are several cases where vendors (e.g. : Lexis-Nexis and GaleNet) expressed future plan to comply with the guidelines. The fact that a vendor has more checkmarks (✔) than other vendors should not be interpreted as an evidence that the

vendor provides a superior report. There are other factors (report delivery and the level of specificity that affect the quality of the reports.

Table 10. Estimated Vendor Compliance to the ICOLC guidelines

Vendor (ICOLC Items)	Sessions (Logins)	Queries (Searches)	Items examined	Turn-aways	Menu Selection
Academic Press/IDEAL	✔		✔	n/a	
Bell & Howel/Proquest			✔	n/a	
Ebsco	✔	✔	✔	n/a	
Elsevier/Science Direct		✔	✔	n/a	✔
GaleNet		✔	✔	n/a	
High Wire		✔	✔	n/a	
ISI	✔	✔		✔	
JSTOR		✔	✔	n/a	
Lexis-Nexis	✔		✔	n/a	
OCLC/First Search	✔	✔	✔	✔	
Ovid	✔	✔	✔	n/a	✔
Silver Platter	✔		✔		

✔ : The measure is availabel

n/a : not applicabel. Some databases do not have simultaneous user limit. Hence no turn-away. Emply cells mean either not available or there is not enough information
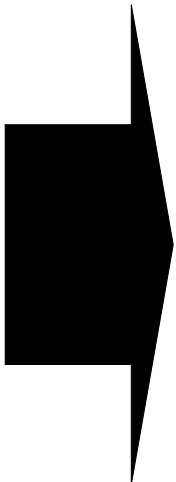
APPENDIX – B

XYZ Consortium
Bench Marking (Rolling Basis)
CM$_1$

	Period-P$_1$					Period-P$_T$		
	My Score	Highest Score	Benchmark Institution			My Score	Highest Score	Benchmark Highest
EM$_2$								
EM$_2$								
EM$_3$								
EM$_{N-1}$								
EM$_N$								

XYZ CONSORTIUM
RELATIVE RANKING

	QO$_1$		QO$_S$
CM$_1$	R$_{11}$		R$_{1S}$
	. . . .		
	. . . .		
CM$_Z$	R$_{Z1}$		R$_{ZS}$

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