Comparative analysis of Library Quality Parameters: LIBQUAL, SUSHI and COUNTER

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Abstract - *Citation data and usage statistics become evitable important factors for assessing the impact, status, value, utility and trustworthiness of content. COUNTER and SUSHI are complementary initiatives designed to improve reliability and usability of online usage statistics. On the other hand quality of library services can be assessed by user with the help of a standard technique – LibQUAL. This study covers the basic know how, origin, usage, purpose, scope, application with a comparative study of three standards - COUNTER, SUSHI and LibQUAL.*

Key words: Comparison, library evaluation, evaluative study, evaluative parameter, library survey

Introduction

In this era data is becoming even more central to the decision-making process, it is inevitable that citation and usage data will become important factors in the assessment of the impact, status, influence, value, utility and perhaps even the trustworthiness of content. Traditional indicators of trust have included the reputation of the author and the institute in which his or her research was done; the status of a journal in which an article appears; and the reputation of a particular publisher. More recently citation data has become popular and now usage statistics have entered into the frame.

With the advent of ICT-enabled scholarly communication, different other parameters like number of hits, number of downloads, ranking by popularity are considered as parameters for easuring quality of research output. In Open Access (OA) log entries store usage events. Analysis of log entries may be utilized for assessing the usage of OA objects. Obviously, usage statistics based services can be much more effective through integration of usage data from different OA journals and OA repositories. The usage statistics service is considered as an important value-added service for open contents management systems. Apart from the contributors and users of open access resources, funding agencies are also interested in availability of integrated usage data to measure research impact and to analyze trends over time. Many guideline and best practices in OA advocated for the provision of usage data from repositories to end users (such as DRIVER, OpenAIRE, RepNet etc).

Some well-known interoperability initiatives in this direction are, COUNTER (Counting Online Usage of Networked Electronic Resources), SUSHI (Standardized Usage Statistics Harvesting Initiative), KE-USG (Knowledge Exchange Usage Statistics Guidelines), NEEO

(Network of European Economist Online), OA-Statistik, PIRUS (Publishers and Institutional Repository Usage Statistics), SURE (Statistics on the Usage of Repositories). (UNESCO, 2015). Here COUNTER and SUSHI will be discussed with LibQUAL**, t**he most widely used library satisfaction survey**.**

What is COUNTER?

The COUNTER Code of Practice is now the most widely adopted standard governing online usage statistics. The internationally-accepted initiative facilitates the recording and reporting of online usage statistics in a consistent and credible manner and will prove to have a major positive impact on both vendors and librarians. The Codes of Practice are refined and upgraded at regular intervals and this is necessarily a major focus for COUNTER. There is also another, growing area of COUNTER activity that is gaining importance as the body of reliable, COUNTER-compliant usage data increases and as usage statistics feature more prominently in assessments of the value, status and impact of online publications. This area may be termed 'usage bibliometrics' and COUNTER is working actively with other organizations on the development of new, usage-based measures of value, status and impact.

Why COUNTER is required?

Standardization is required for comparing, analyzing and aggregating usage data from distributed repository services. So, uniformity is required primarily at two levels –
- standards for storing usage data in a uniform format; and
- standards for transfer of usage data across repositories.

The project COUNTER, mother project for standardization, is the first such initiative in this direction. Most of the large-scale national repository initiatives already defined standards for COUNTER compliant usage statistics (for example PIRUS in UK, OA-Statistics in Germany, and NEEO in Belgium). COUNTER allows four categories of non-textual resource- image, video, audio and other. COUNTER is a code of practice for managing usage data for digital resource repositories.

Background of COUNTER

In 2002, librarians formed Project COUNTER (Counting Online Usage of Networked Electronic Resources). The first COUNTER Code of Practice, covering online journals and databases, was published in 2003. In 2006, COUNTER's coverage was extended further with the launch of the Code of Practice for online books and reference works.

The body of COUNTER compliant usage statistics has steadily grown as more and more vendors have adopted the COUNTER Codes of Practice. This has contributed to the new discipline of usage bibliometrics and a great deal of work is underway to establish value metrics associated with usage where COUNTER statistics play an increasingly important role.
- COUNTER does more than set standards for usage reports.
- Reports on these projects can be found at COUNTER http://www.projectcounter.org/news.html
- COUNTER has worked with NISO (National Information Standards Organization) on SUSHI (Standardised Usage Harvesting Initiative) to develop a protocol to facilitate the automated harvesting and consolidation of usage statistics from different vendors. This protocol may be found on the NISO website at http://www.niso.org/workrooms/sushi/

Purpose and Scope

The purpose of the COUNTER Code of Practice is to facilitate the recording, exchange and interpretation of online usage data by establishing open, international standards and protocols for the provision of vendor-generated usage statistics that are consistent, credible and compatible.

This COUNTER Code of Practice provides a framework for the recording and exchange of online usage statistics for the major categories of e-resources (journals, databases, books, reference works, and multimedia databases) at an international level. In doing so, it covers the following areas: data elements to be measured; definitions of these data elements; content and format of usage reports; requirements for data processing; requirements for auditing; guidelines to avoid duplicate counting when intermediary gateways and aggregators are used.

Application

COUNTER is designed for librarians, vendors, intermediaries and others who require reliable online usage statistics. The guidelines provided by this Code of Practice enable librarians to compare statistics from different vendors, to make better-informed purchasing decisions, and to plan infrastructure more effectively. COUNTER also provides vendors/intermediaries with the detailed specifications they need to generate data in a format useful to customers, to compare the relative usage of different delivery channels, and to learn more about online usage patterns. COUNTER also provides guidance to others interested in information about online usage statistics.

Strategy

COUNTER provides an open Code of Practice that evolves in response to the demands of the international library, publishing and intermediary communities. The Code of Practice is kept continually under review; feedback on its scope and application are actively sought from all interested parties. See Section 8 below.

Governance

The COUNTER Code of Practice is owned and developed by Counter Online Metrics, a not-for-profit company registered in England. Counter Online Metrics is governed by a Board of Directors. An Executive Committee reports to the Board, and the day-to-day management of COUNTER is the responsibility of the Project Director.

Versions

The COUNTER Code of Practice will be extended and upgraded as necessary on the basis of input from the communities it serves. Each new version will be made available as a numbered Release on the COUNTER website; users will be alerted to its availability. Release 4 of the Code of Practice replaced both Release 3 of the Code of Practice for Journals and Databases and Release 1 of the Code of Practice for Books and Reference Works. The deadline date for implementation of this Release was 31 December 2013. After this date, only those vendors compliant with Release 4 were compliant with the Code of Practice.

Auditing and COUNTER compliance

An independent annual audit is required of each vendor's reports and processes to certify that they are COUNTER compliant. The auditing process is designed to be simple, straightforward and not to be unduly burdensome or costly to the vendor, while providing reassurance to customers of the reliability of the COUNTER usage data. See Section 6 below and Appendix E for more details.

Relationship to other standards, protocols and codes

The COUNTER Codes of Practice builds on a number of existing industry initiatives and standards that address vendor-based network performance measures. Where appropriate, definitions of data elements and other terms from these sources have been used in this Code of Practice.

SUSHI (the Standardized Usage Statistics Harvesting Initiative)

SUSHI – what is?

SUSHI is a NISO (National Information Standards Organization) standard (ANSI/NISO Z39.93-2007) that defines an automated request and response model for the harvesting of electronic resources usage data utilizing a Web services framework. It replaces the time-consuming user-mediated collection of usage statistics reports. The SUSHI protocol is designed to be both generalised and extensible, meaning it may be used to retrieve a variety of usage reports. A SUSHI extension is designed specifically to work with COUNTER reports is provided within the standard. The standard is built on SOAP (Simple Object Access Protocol) for transferring request and response messages. The GetReport method is used for transferring ReportRequest as the input message and returning ReportResponse as the output message.

The standard includes a versioned Web Services Description Language (WSDL), to describe the Web service namespace and operations, and a generalized XML schema with the syntax of the SUSHI protocol. Rules for report naming are outlined and complemented by an external reports registry, which provides for the definition of both COUNTER and non-COUNTER reports.

SUSHI Server Response Times

A SUSHI Server must respond to the SUSHI Request from a client within 120 seconds. SUSHI Servers that are unable to deliver consistently a completed usage report within this timeframe should adopt an architecture that allows for background processing of usage data – the server can respond to the initial request with a "Server Busy" exception while queuing therequest for background processing. Since most SUSHI clients will wait minutes or hours before retrying the request, the report will be ready to be delivered on the subsequent request.

NISO activity

Founded in 1939, the National Information Standards Organization (NISO) is an industry-based, nonprofit, non-governmental association. NISO is accredited by the American

National Standards Institute (ANSI) to identify, develop, maintain, and publish voluntary, consensus-based standards for managing information. It fosters the development and maintenance of standards that facilitate the creation, persistent management, and effective interchange of information so that it can be trusted for use in research and learning. They achieve this mission by focusing on three core areas of activity: Engagement, Interoperability and Education. NISO enables libraries, publishers, and vendors to engage across and solve problems of mutual interest by providing a neutral forum in which they can engage and build consensus. NISO brings together diverse working groups and guide their work as they develop solutions to community concerns. The core problems that we collectively solve focus primarily on technological interoperability and building efficiency among these different organizations that comprise our community. NISO standards focus on content creation and curation, discovery and interchange, analytics and business processes that facilitate content exchange. Critical to the adoption of these technologies is building awareness and support for these solutions through education. NISO's educational programs include free, written content on the NISO website, webinars, open teleconferences, in-person and virtual conferences.

NISO standards – value adding procedure

NISO standards promote the flow of content between creator, publisher, distributor and user. NISO standards are directed towards those who publish information and/or provide tools to access, use, or preserve information. The ISBN is one of the NISO standards your company depends on. The procedures NISO uses ensure integrity and guarantee that all stakeholders have a say.

Usage of NISO standards

Publishers, information aggregators and content providers, libraries and other information providers use NISO standards. All those whose business depends on interoperability with other systems and processes use NISO standards.

The SUSHI Harvester for Library Consortia

When publishers with very large numbers of journals are reporting to consortia with very large numbers of members, there are instances where the Consortium Report files can become inconveniently large for the publisher or the customer. In these instances there is an acceptable, COUNTER-compliant alternative to the Consortium Reports. This involves using the SUSHI Harvester for Consortia, a free Microsoft Access application from EBSCO that leverages the open source SUSHI MISO client (developed by Serials Solutions) to batch download Journal Report 1, Database Report 1, Book Reports 1 and 2, or Multimedia Report 1 for the member institutions of a consortium. (Note: The SUSHI Harvester for Consortia may also be used to batch download the other COUNTER usage reports). COUNTER leaves it to vendors and their customers to decide between them which approach (the Consortium Reports or SUSHI Harvester) is appropriate for a particular customer. The SUSHI Harvester for Consortia, together with a detailed User Guide containing instructions on how to implement it, may be found on the NISO website at: http://www.niso.org/apps/group_public/download.php/4774/SUSHI-Harvester.zip

LibQUAL

2. LibQUAL+ is a web-based survey offered by the Association of Research Libraries that helps libraries assess and improve library services, change organizational culture, and market the library. The survey instrument measures library users' minimum, perceived, and desired levels of service quality across three dimensions: Affect of Service, Information Control, and Library as Place.

What is LibQUAL?

LibQUAL is a tool that libraries use to solicit, track, understand, and act upon users' opinions of service quality. The protocol is a rigorously tested web survey that helps libraries assess and improve library services, change organizational culture, and market the library. The goals of LibQUAL are to:
- Foster a culture of excellence in providing library service
- Help libraries better understand user perceptions of library service quality
- Collect and interpret library user feedback systematically over time
- Provide libraries with comparable assessment information from peer institutions
- Identify best practices in library service
- Enhance library staff members' analytical skills for interpreting and acting on data

Since 2000, more than 1,300 libraries in 33 countries have participated in LibQUAL, including college and university, community college, health sciences, and academic law libraries. This growing community of participants and its extensive data set of more than one million completed surveys are rich resources for improving library services.

Origins of the LibQUAL Survey

The LibQUAL survey evolved from a conceptual model based on the SERVQUAL instrument, a popular tool for assessing service quality in the private sector. The Texas A&M University Libraries and other libraries used modified SERVQUAL instruments for several years; those applications revealed the need for a newly adapted tool that would serve the particular requirements of libraries. ARL, representing the largest research libraries in North America, partnered with Texas A&M University Libraries to develop, test, and refine LibQUAL. This effort was supported in part by a three-year grant from the U.S. Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE).

Goals of LibQUAL

- establishment of a library service quality assessment program at ARL;
- development of web-based tools for assessing library service quality;
- development of mechanisms and protocols for evaluating libraries; and
- identification of best practices in providing library service.

How will LibQUAL Benefit the Library?

Library administrators have successfully used LibQUAL survey data to identify best practices, analyze deficits, and effectively allocate resources. Benefits to participating institutions include:

- Institutional data and reports that enable to assess whether the library services are meeting user expectations
- Aggregate data and reports that allow to compare library's performance with that of peer institutions
- Access to an online library of LibQUAL research articles
- The opportunity to become part of a community interested in developing excellence in library services

How Does LibQUAL Benefit Library Users?

LibQUAL gives library users a chance to tell where the services need improvement so can respond to and better manage their expectations. Librarian can develop services that better meet library users' expectations by comparing library's data with that of peer institutions and examining the practices of those libraries that are evaluated highly by their users.

Comparative study of COUNTER, SUSHI and LibQUAL

COUNTER and SUSHI are complementary initiatives designed to improve, respectively, the reliability and usability of online usage statistics. The role of COUNTER is to ensure that usage statistics are credible, compatible and consistent, while the role of SUSHI, which is sponsored by NISO, is to ensure that they are easy to obtain. Every day libraries and publishers are asked to demonstrate the value of the content they provide through quantitative metrics and assessments. Existing metrics, such as impact factors and tools such as COUNTER and SUSHI, provide extremely valuable metrics and data for librarians. However, as both the forms of content and the way content is used evolve, alternative forms of assessment are needed. Data at the container level, e.g., the journal, is no longer sufficient. Downloading full text in pdf formats are no longer the only (or even primary) way users access and consume content. Citations alone are insufficient to capture new social media interactions and how content is shared. Traditional assessment techniques are being modified, completely new measures are being developed, and both old and new need to be blended in a meaningful way that creates a trusted system. COUNTER and SUSHI benefit libraries and publishers by facilitating access to and management of reliable usage statistics. The usage statistics thus made available are already being used by librarians to assess the utility and value of their collections of journals and databases, and by publishers to demonstrate the value of their collections of content. Metrics such as "Cost per download" and "Cost per FTE" (fulltext) are now widely used.

Reliable, easily accessible usage statistics also have the potential to be of greater benefit to authors and research institutions more broadly. Two ongoing COUNTER research projects may help achieve this. First, Journal Usage Factor project, sponsored by the UK Serials Group, RIN and others, is investigating the development of a usage-based equivalent of the citation-based journal impact factor. Second, the PIRUS Project, funded by JISC (the Joint Information Systems Committee in the UK), is investigating the feasibility of creating a COUNTER-compliant standard for the recording and reporting of usage at the individual article level. Successful outcomes of these two projects will add authors, research institutes and research funding agencies to the groups that find usage statistics a helpful tool. The NISO SUSHI standing committee supports the success of COUNTER by focusing on improving the automated exchange of COUNTER data through continued development of SUSHI, SUSHI-Lite, and the related schemas and registries.

LibQUAL is a standard technique for assessing the quality of libraries according to users' satisfaction. Physical spaces, information control and staffing are three critical areas. In several quality assessment studies, students mention that they are not as concerned about collections as they are about the physical surroundings of their libraries and the creation of social spaces. It gives library users a chance to tell where services need improvement. As result it will be helpful to respond and better manage their expectations. Librarians can develop services that better meet users' expectations by comparing library's data with that of peer institutions and examining the practices of those libraries that are evaluated highly by their users. Library administrators have successfully used LibQUAL survey data to identify best practices, analyze deficits, and effectively allocate resources.

Conclusion:

Library is one of the most important elements in the scientific development of every country, especially academic libraries which are the centers of research and study for scholars. The assessment of service quality of these libraries can promote their performance and increase users' satisfaction. Use of SUSHI, COUNTER and LibQUAL can estimate the level of users' satisfaction by evaluating the library service quality by increasing the efficiency and quality of academic library services

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