

## Chapter 15

# The Significance of Usage (Web) Metrics in Electronic/Digital Era

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### ABSTRACT

*Currently, libraries are passing through a challenging phase of progress as the entire scholarly publishing process is getting through the publisher's remote servers from the stage of production to users accessing the information. The server log created in this process measures their usage in several dimensions. As libraries strive to become more user-centric, usability factor becomes increasingly important for the development of collection as well as services. Consequently, the need is arising to explore methods to evaluate the usefulness of new type of resources also since they became integral part of the library collection. The subscribing libraries, organizations and consortia have been relying on the data for quantitative as well as qualitative assessment. The chapter discusses about the characteristics of electronic information, genesis of server logs and transformation into usage metrics and also the role of relevant standards in formatting the usage standards and advantageous features. The objectivity of data mining and research applications of usage metrics in supporting the library management as well as establishing the credibility of authors, institutions, journals or databases etc. are highlighted in this chapter.*

### INTRODUCTION

The advancements in information industry laid a high impact on the production, packaging and speedy dissemination of scholarly information. The evolution of physical format has transformed every facet of the libraries/librarianship significantly including the acquisition policies and management of collection in libraries, their range of services, user's expectations and requirements and also the research trends. Currently, libraries are

passing through a challenging phase of progress due to the transformation of information format as well as the explosive growth of electronic documents, increasing budgetary projections and constraints. Consequently, the need is arising to explore methods to evaluate the usefulness of new type of resources, as these resources have become the most preferred to academic / research communities and thus formed as an integral part of the library collection.

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The entire scholarly publishing process, i.e. from content generation, maintenance, to the dissemination of scholarly content directly to users is getting through the publisher's remote servers. The growing volume of electronic content is reflected in the counts of scholarly journals published over a period decade 100 plus in the year 1995; to above 10,000 by 1997; and 59,549 by 2007. Moreover, the growing number of web resources is creating a dilemma in researchers regarding the credibility of the information. So its maintenance has become much beyond the scope of the libraries, though they were all through responsible for the survival of publishing activity in scholarly communication cycle. Consequently, various experimental projects were emerged addressing both technical and user issues since 1990s. Simultaneously the production of other types of information material viz. Serials, multivolume sets of reference books, monographs and textbooks has geared up the user's expectations, preferences and the usage of resources more in electronic form than in paper. The access to electronic content straightly measures the usage and the metrics can characterize the usage in several aspects. As libraries strive to become more user-centric, usability factor becomes increasingly important for the development of collection as well as services. The subscribing libraries, organizations and consortia have been relying on metrics generated by the usage of electronic content to measure the same quantitatively as well as qualitatively.

Thus, the chapter discusses about the characteristics of electronic information, genesis of server logs and transformation into usage metrics and also the role of relevant standards in formatting the usage standards. Further significant applications of usage metrics in supporting the library management while taking right decisions and establishing the credibility of authors, institutions, journals or databases etc. objectively are highlighted in this chapter.

## **ELECTRONIC INFORMATION, RESOURCES AND LOG DATA**

The scholarly information, especially serials began produced, preserved in electronic medium and distributed through networks. The initial efforts to resolve the issues arising through traditional means of scholarly communication and the dissemination of information gave a way to the present developments in transmitting the scholarly content through electronic form using satellite communication channels. In very early stages, McMillan (1991) defined electronic journal that "any serial produced, published and distributed nationally and internationally via electronic networks such as Bitnet and the Internet". Lancaster (1995) further clarified that "the electronic journal is the one created for the electronic medium and available only in this medium". Tenopir and others (2003) described the evolution of e-resources in three phases commencing from the late 1970s. Though the journal format was shifting from print to electronic was minimal until early 1990s, publishers started massive publication of electronic journals on the Web in parallel with the traditional printed versions and their distribution over the Internet after the invention of the World Wide Web in 1993. The advanced a third phase is characterized by the placement of e-journals in a full digital context, i.e. the search capabilities and other advanced features were integrated since the year 2000. Further technological advancements in the integration of multiple resources and sources made it possible to aggregate the full text resources and form as collections or databases; the abstract & index services and also the development of consortia, gateways, digital libraries etc.

The electronic journal publishing began accelerating during 1990s with the active publication initiatives of academic institutions, i.e. Universities of Houston, Virginia Polytechnic Institute and State and North Carolina State etc. 'Online Journal of Current Clinical Trials', the first peer-reviewed electronic full text e-journal with graphics was

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