



# INFLUENCE OF BIG DATA ON LIBRARY SYSTEMS

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## ABSTRACT

The concept of Big Data has witnessed by many as a technological modernization in libraries and information centres. Big Data is defined as information overload due to the volume, speed, variety, variability and authenticity of data that need to be processed to achieve good value and visualization than the data generated in academia and other institutions is large and complex. The field of networking and digital technology is undoubtedly dynamic and rapidly evolving, Libraries face new challenges as they seek to define their role in handling big data in their organization and use it to develop services. Thus, in most organizations, the library would not have the knowledge to create new services without help. Besides, libraries are always information management and technology receivers therefore, big data technologies will inevitably influence their landscape. This article explores the ways in which big data affects libraries and how librarians prepare to support data in their departments. leading to a constant increase in the volume of information, articles focusing on how Big Data can help libraries better understand their customers, implement Big Data technologies in libraries.

**KEYWORDS** : Big data, accuracy, conservation, field, data covid -19 pandemic

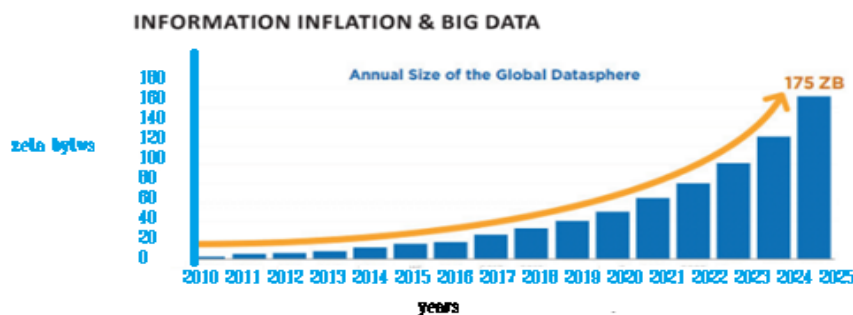
## INTRODUCTION

The traditional concept of library service has changed, as effective development of library collections requires effective analysis of the needs of library patrons.<sup>7</sup> In addition, with implementation big data technology, can acquire new knowledge and can provide new services, adding value to existing ones.<sup>8</sup> In addition, librarians can use big data analytics to evaluate and improve library services<sup>9</sup> and deliver targeted, higher-quality services<sup>10</sup> characterized by a self-adapting personalized information system and knowledge information services for decision-making supplementary. Currently, many information professionals are considering library involvement in Big Data. What is the role of libraries for data and information? The answer is simple: identify and select valuable resources; organize, describe and store them; and finally provide access to their customers. When dealing with big data, librarians are encouraged to participate in the

earlier stages of the information cycle, where they often focus on processing the research output filtered by the publication. The term modern Big Data refers to “data whose scale, diversity, and complexity require new architectures, techniques, algorithms, and analytics to manage it and extract value.” as well as its hidden meaning. 16 In particular, Big Data is "a combination of four very important characteristics: volume, velocity, variety, and authenticity": 17 volume refers to the amount of data; speed refers to data in motion and more specifically to the rate at which data is created, processed, and analyzed; the variety involved in managing the complexity and heterogeneity of many data sets, including structured, semi-structured, and unstructured data; Finally, authenticity refers to the uncertainty of the data and the degree of reliability/quality associated with certain types of data.

## LITERATURE REVIEW

The primary goal of information and data science professionals is to transform large and disordered data sets into actionable knowledge through analytical thinking processes. Therefore, libraries should aim to facilitate knowledge creation in their communities. Since 2012, mentions of the term “Big Data” have become more frequent in the headlines of newspapers, proprietary journals and academic journals in many fields.<sup>1</sup> Data great value in most areas; Its capacity, usage and applications are varied and can provide surprising information. Research by Hamad et al. (2020) attempted to examine big data analysis, its research focus, and the challenges of implementing it in academic libraries in Jordan. Ball (2019) provided an overview of the possibilities and opportunities for using large volumes of data in the library, presenting theory and explaining practical examples. Kamupunga and Chunting (2019) tackled the problems of compiling data from disparate sources and organizations into one place in real-time which can save time. In addition, Blummer and Kenton (2019) examined literature and libraries of big data to identify relevant trends and highlight the possibilities and challenges of managing huge datasets. While Kaladhar et al. (2018) discussed different types of data sets and their characteristics, consulted with IT (information technology) professionals on the suitability of big data technology for operations. library dynamics. Sona warne (2018) clarified Big Data concept, its functionality, required skills and infrastructure to implement it in libraries, also discussed the application of Big Data in the applications. library. Olendorf and Wang (2017) explored the possibilities of using big data in libraries and critically considered the benefits, costs and risks associated with the use of big data. Study also provides use cases, tips to get started, and briefly describes tools and resources for working with big data. Likewise, Sengupta (2016) introduced the concept of Big Data and its usefulness in the library. Wang et al. (2016) identified various characteristics of library datasets, reviewed the library big data studies, and then summarized the applications in the field.



Source : IDC Global Data Sphere

## BIG DATA IN LIBRARIES

Public libraries can bridge the gap between the general population and knowledge of what is going on with the data and how it can be used. This role adds value to libraries by anticipating demand and then providing community services. They can help people better understand data creation and decide what kind of data world they want to operate in.<sup>89</sup> The implementation of big data and big data technologies in public libraries is explored in three articles. Kim and Cooke conducted big data analysis to evaluate library services using multidimensional data visualization. The researchers created new models that aid in the management and visualization of big data, and recommended data analysis tools and strategies, and advised researchers on planning. Data management in surveys about the evolution of research in the age of big data and how librarians and other information professionals can meet the emerging needs of researchers. The role of the research library in the research life cycle and discuss the motivation behind a research project to investigate effective big data network infrastructure strategies for libraries, the use of data major in library research, with a focus on analysis, management, and preservation of research data. Government librarians should strengthen their role in the age of big data and provide more efficient services to the citizens they serve. They acknowledge that there are huge potential and pitfalls when dealing with big government data, such as concerns about privacy management and concerns about areas of expertise where librarians need to improve. to better manage the access and management of collections. These are some various field where big data play important role in libraries

### Planning

In the case of planning a research project at the institutional level, a library can play a research support role and help researchers improve their data analysis skills by ways to help them conceptualize how data is searched (e.g. using different search terms) to get the most out of results.

## **Collections**

Although big data collection may be outside the scope of typical library services, libraries can still assist researchers in big data collection in two ways. . First, some libraries may already have in-house expertise on common big data sources, such as social media feeds, or libraries may be able to pull off existing big data sources. marketed as part of the library's data collection. Second, acquiring and working with big data can be computationally intensive. Libraries can collaborate with other entities such as high-performance computing to provide IT support and also the technical infrastructure to work with big data.

## **Assurance, Analysis and Integration**

After Data Collection Requirements Quality Assurance (QA) is required to confirm acceptance for the study. After ensuring the quality of the collected data, they are analyzed using related tools and techniques to organize, categorize and summarize the collected data for better understanding and interpretation. lead to understanding and discovery of answers or solutions to the search problem that initially triggered the search .

## **Description**

For proper understanding, any data file must be described with adequate documentation and metadata information. A document is human readable information that provides detailed information about different aspects of the data. Metadata is usually machine-readable, often machine-generated information, and in addition to providing information that makes the data easier to use, it also helps identify and describe the data.

## **Conservation**

Along with data description, archiving and preservation are probably other key services that libraries can provide. Many libraries have institutional repositories, and some also have dedicated data repositories. Explore Outside of some of the more popular big data sources, for example. With social media platforms like Twitter, uncovering useful data can be difficult. Librarians involved in supporting research data can play a helpful role in working with researchers to find useful and relevant datasets.

## **CONCLUSION**

In recent years, especially around the time of the COVID19 pandemic, libraries and librarians have proactively and enthusiastically provided online resources and services to their respective users. Libraries have also begun to use social media and other online platforms to promote their services and collect updates. Online information needs to be analyzed to verify its authenticity and accuracy using emerging technologies and make it available to a specifically targeted user base to add value to their services. In addition, to "get

ahead" of new age information inflation, Big Data can help libraries make better decisions, regarding the development of required collections, management for Managing library space and monitor usage. Big data also helps maintain the quality of routine and repetitive library jobs, viz. cataloging, indexing, archiving, management, conservation and representation. In summary, it can be stated that Big Data can help libraries make more beneficial, innovative and informative decisions or recommendations for users, in order to contribute to a enhanced user-oriented service.

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