Google and its scope of application in academic libraries: An introduction

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Abstract

Library & information centers are now dependent on various information and communication technology enabled tools. Information and Communication Technology (ICT) has brought revolutionary changes in all kinds of service-oriented organizations as a whole and as a service-oriented organization, library is not an exceptional one. In the present age of ICT, the libraries are becoming more user-centric and user-friendly as most of the service as well as working areas of libraries are now reliant on a computer-system with a bundle of different application software. Besides, Google, the most popular search engine is being used in libraries for providing better library service. Google has lots of application tools which can be adopted in a library environment as an infrastructure. In this paper, some of such tools are discussed which can be linked with some library services. The pros and cons of using such tools are also noted. Some academic libraries of international repute are also mentioned as example where different tools of Google are being used.
***K**eyword:* Google, Google Drive, Google Form, Google Scholar, Google Sites

1. Introduction:

Google, a (brand) name known to all techno savvy because of its different services and application tools, is basically an internet search engine. A user can use its different services and application tools with User ID (and password) free of cost. The popular services/ applications of Google are mainly of the Gmail, Web, Scholar, Image, Picasa, Google Drive, *etc*. Though the basic introduction of Google is a search engine to retrieve required information on universe of knowledge; rather Google can be used for

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the betterment of library services as well with its other application features. To rejuvenate academic library as a hub of learning, the Google is one of the tools which can help a library to become a centre of social learning in real sense.

2. Application of Google in library system and services:

Now a day, in the participatory academic library system and services, ICT becomes one of the basic components as it makes the library and information center more user-friendly and a center of infotainment. Most of the service as well as working areas of academic libraries are now dependent on computer-system loaded with a bundle of different application software.

With the development of the web 2.0 concept, ICT has become more user-oriented.

Tim O'Reilly, the Father of Web 2.0 explains "Google is most certainly the standard bearer for Web 2.0".

Google has brought a change to the field library and information services with its different tools and apps. Before discussing these applications, a review of literature indicating this area has been done.

3. Review of literature:

To review the literature on the study area, both the printed and digital resource have been covered. This review helps in gaining an insight of current knowledge as well as theoretical and methodological contribution to this particular area. A few selected papers on the followed areas have been reviewed accordingly.

In the paper *'Digital Librarianship & Social Media: The Digital Library as Conversation Facilitator',* Schrier (2011) explains how the Google Alert facility can be utilized in a library environment. Moreover, the Author cites the example of McMaster University of Ontario for showing the utility of this service in digital environment.

Regarding Google Scholar, Noruzi (2005) in his paper *'Google Scholar: The New Generation of Citation'* highlights on the use of Google Scholar as scholarly search engine as well as a tool for counting the citation indexes which is very much essential in the field of education and research.

On the other hand, Lauren (2016) highlights how an academic library can use Google Form in a library system. In the paper *Google Forms and Sheets for library gate counts'* the Author cites the example of Binghamton University Libraries where Google Form has been used for counting the footfall in the Library.

In a paper titled *'Software as a service: Analysis of 'Google Sites' as KM tool for academic environment',* the application of "Google Sites for suitability as the knowledge management tool" is discussed. In this paper, Farooqui (2008) indicates

that most of the academic institutes face mainly two common problems, *i.e.* financial problems and the technical problems, in introducing different ICT tools in knowledge management. In this regard the author mentions that the "Google sites is the best solutions to face both the common problems".

'Google Sites & chrome for dummies' is a very useful hand-book for Google Sites users as it includes all the features as well as the process of designing a site using this platform. Regarding the up-gradation and quality maintenance of this Google Sites, Teeter and Barkdale (2009) explain, "Like many other services offered by Google, Sites is a *perpetual beta*. This means that the clever Google engineers are always improving the way Sites works by adding new features and changing ones that aren't as helpful."

Jensen (2013) in the paper *'Managing library electronic resources using Google Sites'* explains how the Google Sites has been applied for the management of the electronic resources in the University of Alaska Fairbanks Libraries. The author rightly mentioned this application of Google Sites as "this home-grown system's ability to meet them, harnessing the power of a Google search to make it an effective and streamlined short-term solution."

In the paper *'Using cloud infrastructure to support higher education: A case study of managing a course web page with the Google Sites'*, Pjanic (2013) and the co authors elaborate how a university course can be managed incorporating different Google cloud services within the Google Sites. Pjanic (2013) ...*et al.* write, "Google Sites provides a simple site creation system by which teachers alone can design, implement and manage websites for their courses. The Sites can be easily combined with other Google tools in order to incorporate documents, spreadsheets, calendars, forms, maps, video and a range of interactive gadgets into the course web pages. Google Sites management and creation system allows the creation of different types of web pages based on predefined templates, which additionally accelerates the course sites creation process."

Kulikowski (2012) in his paper *'Using Google Drive for library communication and collaboration'* explains how the Google Drive can be used in the various activities and functioning of a library. He shows the step-wise process of using Google Drive with some screenshot. Regarding the Google Drive, the author states, "It's a program that allows you to create and store documents in the cloud for free. With an Internet connection, you can access your documents and files from any computer. Additionally, individuals can work on a shared document together in real time."

In another paper *'Cloud epoch: Storage as a service'*, Singh, Sarma & Kaur

(2012) define, "Google Drive is a freemium cloud storage service that is integrated with the company's other services and systems, including Google Docs, Gmail, Android, Chrome, YouTube, Picassa, Google Video, Google Analytics and Google+ . Google Drive, which enables a seamless browser-based interface between the user's files and applications…"

In the paper *'An empirical study of implications of cloud computing applications in libraries using diffusion of innovation theory: Determining factors of adoption'*, Yuvaraj (2013) mentions the various application of cloud computing in libraries as "There are various cloud-based tools for reference service needs of the libraries such as 'cloud-based video services' (*e.g.*, YouTube, TeacherTub2e), 'information collection services' (*e.g.*, Google forms) and 'file sharing services' (*e.g.,* Dropbox)."

4. Application of Google in library system and services: A discussion :

From the above review of literature, a clear picture of application of Google in library system and services can be drawn. This can be treated as next generation library infrastructure. Some of the apps and tools developed by Google have been discussed below with their basic applications in library services especially in academic library services.

4.1. Google Alert:

Google alert is a tool that keeps one updated with different news content of a topic specific. One can create an alert on a particular topic of interest just by putting the keyword. It is an online notification service that alerts subscribers regarding the updates in specific intervals. It is linked with Gmail and Google sends email to a particular user regarding the new information if and when it finds new information on the web by their system (server).

With the help of Google Alert, a librarian can help their user community by providing current information of their interest. It is a one kind of SDI service as it tracks the current information generated worldwide. Liberians can help a researcher to be up-to-date with the latest trends of research activities and development using this service.

University of Michigan is a world-class university in the USA. The Central Library of this University uses this type of alert service and the Library extends this service a research guide service. <https://guides.lib.umich.edu/c.php?g= 283150&p=1886381 >

4.2. Google Scholar :

Google Scholar is a freely accessible <u>web search engine</u> that indexes the full text

as well as metadata of <u>scholarly literature</u> on different disciplines published online. The Google Scholar index includes most reviewed online <u>academic journals</u> and books, conference papers, <u>theses</u> and <u>dissertations</u>, <u>preprints</u>, <u>abstracts</u>, <u>technical reports</u>, and other scholarly literature. Moreover, it is being used for citation analysis and it counts citation index. This platform can be used by a library for providing scholarly literature to their users. Moreover, it helps in preparing the bibliography in a standardized format as it helps how to cite a particular literature in APA, MLA, Chicago format, *etc.* It helps in measuring the Citation analysis too.

In this Google Scholar, an added feature named 'My Library' is there which allows a user to save the search result of Google Scholar. The University of Pittsburgh University Library System has an optimum use of Google Scholar for their researchers. <https://pitt.libguides.com/googlescholar>

4.3. Picasa Web/ Google Photos:

The Picasa Web Album is an image organizer and image viewer for digital photos. It is an integrated photo-sharing website that allows the user to share their photos over the web. This log-in based service allows a user to upload digital images up to 1 GB free of cost. In PWA, one can upload up to total 20,000 albums and 2000 images in a particular album. The size of an image can be no larger than 50 MB for uploading in an album in PWA. This App has been upgraded and now Google Photos is being used. The accounts in Picasa Web are automatically migrated to the newer one *i.e.* Google Photos.

A library can use this platform to store image files specially the scan files in a safe and organized way. The images of rare books as well as manuscripts can be stored in this platform.

4.4. Google Form:

The online questionnaire-based survey is a popular means of data collection that enables to cover a wide area of population. This is very time saving and systematic method of survey. Using Google Form initially available on Google Docs (now on Google Drive), one can prepare an online form for data-collection.

In a library system, user-feedback as well as user survey is an important aspect; as it enables a librarian to know their users' need as well as the drawbacks of the existing system. Google Forms can be used for this purpose that helps to collect the data from the user community and it helps in analyzing them systematically. The Google Forms have the facility of data –analysis.

The Central Library of University of Illinois at Chicago *i.e.* Richard J. Daley

Library has started using Google Form as tool of active learning and assessment. Besides, the Binghamton University Library used the Google Form to collect gate count in the Library. (Lauren, 2016).

4.5. Google Sites:

Google Sites, a website creation online platform offered by Google Inc. In May 21, 2008, Google started this free online platform without the need for a separate domain to create webpage.

Google Sites is a structured wiki which gives a platform for creating a webpage using plain text with minimum or no knowledge of HTML. This template based system has the customization facility to give a customized look on the page.

Google itself describes Google Sites as 'the easiest way to make information accessible to people who need quick, up-to-date access.'

As Google Sites is log-in based, therefore the creator (owner) of the page can design the site online and can edit the page with others selecting as collaborator. The permission setting helps in controlling users/ viewers just by selecting the option.

Google Sites offers different types of pages such as a web page, announcements, file cabinet, dashboard and list. Google Sites is integrated with other Google services/ products, which gives the provision to insert videos, docs, spreadsheets, presentations, photo slide shows, *etc.* directly onto the Google Sites pages.

Moreover, it offers the feature of searching the information within a particular site using Google search technology. Google Sites has the license of Creative Commons and Apache License.

Library Website is a basic tool for a library in digital environment as it can provides different services to a larger number of users at a same time. It is an essential requirement for a library as it works as a gateway for entering into the library from a remote place. Library website provides the basic information regarding the library facility, services, rule & regulation and about its parent body, *etc*. In addition, the library website works as a platform for accessing the e-resources, including the e-journals, e-books, e-newspapers, etc. Moreover, the web OPAC can be accessed through the library website. The e-learning material of a particular institution can be published on the library website. Google Sites can be used for designing the library website as it is a very user –friendly platform for this purpose.

Kent State University Library provides online tutorial on building webpage using Google Sites. <https://libguides.library.kent.edu/smsweb/smsgooglesites>

4.6. Google Drive:

Google Drive is a log-in base platform which enables user to step into cloud

storage where one can store files; and can share and edit a file in a collaborative way on the web. It integrates with other Google services/products, which gives the provision to upload files and folders of videos, docs, spreadsheets, presentations, etc. This is a safe place for keeping the files. Regarding the security aspect, the Google itself mentions as, 'Using Google Drive is a great way to store your files safely in secure data centers, where your files won't go missing. Even if your computer, phone or tablet break, the files you store on Google Drive are safe.' Last but not the least, the Google Drive gives the memory space of 15 GB free of cost.

In a library, keeping a file in digital format safe is a big challenge as it may be damaged due to virus affected, software/hardware crash, *etc*. A library can depend on cloud storage for data storing. The back-up file of library management software like SOUL or Koha should also be stored in the cloud as it is safer than keeping them in secondary storage devices like CD/DVDs, pen-drive or hard disk. A library can use this Google Cloud service, Google Drive for data preservation and security.

Virginia Commonwealth University Library recommends their scholars to manage the research data using Google Drive. The Library provides VCU Google Drive account for data storage. <https://guides.library.vcu.edu/data/GoogleDrive>

These are some of the selected tools of Google, besides these, YouTube, Google +, Blogger, *etc.* can also be used for providing library services.

In the above discussion, it shows how these tools can be applied in a library which is summarized in the following table:

Table 1: Various tools of Google

Sl. No	Name of tools	Year of initiation/ launch	Application in Library
1.	Google Alert	2003	SDI service
2.	Google Scholar	2004	Scholarly literature search, Citation Index count and analysis, Bibliography preparation
3.	Picasa Web / Google Photos	2004	Storage of image file
4.	Google Form	2006	User -survey User- feedback
5.	Google Sites	2008	Website designing, Learning content management
6.	Google Drive	2012	Data storage in cloud

5. Advantages:

There are lots of advantages of using Google in the library environment. Though Google is simply a search engine, the librarian should take the benefits of it by using different tools and facilities provide by this all-time popular search engine. Some of the advantages of using Google are:

5.1.   The apps and tools of Google are available online, one can access them from anywhere of the Globe.

5.2.   One can use all the tools with a single user-ID.

5.3.   Using a standalone computer with internet connectivity, one can use Google.

5.4.   Customization is another feature of Google tools.

5.5.   The risk factor is very less; protection of data and system is highly ensured as it is maintained by Google itself. It is disaster free.

5.6.   Automatic update is another advantage of using these tools; these tools are always compatible with all types of operating system.

5.7.   Using Google and their bundles of tools requires no advance technical skill. Only a computer literate can use and handle almost all the tools easily.

5.8.   Mobile compatibility in all of these tools is another adding feature that enables these tools work in smart phone too.

5.9.   For designing a web page using Google Sites and other network-based works, a user requires no server.

5.10. The cost of software purchase and their regular maintenance is a serious issue for a library. As these tools of Google are basically freely available, it can address the cost related issues in libraries.

5.11. Most of the services can be shared in different social networking sites with a single click.

5.12. Migration from one platform to another (newer one) is very easy in Google.

6. Conclusion:

Google is a very useful tool in the field of library and information centre. Application of Google can help librarian to advance the library to a next level of development. From the discussion, it is clear that the application of Google gives a diverse platform where one can store data safe, give access to their information worldwide through the web, create an alert for a topic of interest, *etc.* Already a number of leading academic libraries have already used different Google tools. It can be assured that using Google; one can upgrade their library to a standard one with minimum IT infrastructure and minimum technological skills. These above-mentioned applications of Google in library cannot be demanded as an ultimate one, as Google adds new features and tools very

frequently. Short term training, Workshops, lecture programme in this area should be conducted for the greater benefits of the library professionals. Therefore, human resource and technology should march hand-in-hand for making an academic library a centre of learning and ere

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