

EMERGING VARIANTS OF LIBRARY AND INFORMATION SERVICES

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Abstract *The emerging new variants of technologies offer library professionals a novel chance to significantly enhance user-centered services and promote collaboration between libraries and their users. Libraries must embrace new technologies and paradigms to remain relevant in society and provide users with the best-emerging services it also ensures that users are involved in the design process and that they are made aware of any changes. With the help of newer technologies libraries reach the unreached goal and make the bridge between other libraries and information centres to share resources and information. In this paper, we discussed some of the most popular emerging variants and trends in library services, which are divided into five broad categories that is Reference Service Variant; Digital lifestyle Variant; Social networking Variant; Research support service Variant, and Variant in personalization service. This study provides these new variants of library services in detail with examples of renowned national and international libraries, which provide these types of services.*

Keywords: *Library's Current Trends, Emerging Trends, Virtual Library, Research Services, Social Networking Services, Digital Services, Social Media Platform, Personalised Services*

INTRODUCTION

The new technologies adopted by every field to upgrade their professional skills then why library professionals are lagging to adopt new emerging technologies. The librarian must improve library services with the help of new technologies and make connections with their users and observe their needs related to library services. Rising new trends offer opportunities for library professionals in distinguishing, collecting, organising, customizing, and delivering information services in a variety of formats. The emerging new variants of technologies offer library professionals a novel chance to significantly enhance user-centered services and promote collaboration between libraries and their users. Libraries must embrace new technologies and paradigms to remain relevant in society and provide users with the best-emerging services; it also ensures that users are involved in the design process and that they are made aware of any changes. With the help of newer technologies libraries reach the unreached goal and bridge between other libraries and information centres to share resources and information. The information may be provided in tailored form according to the varieties of the user community. The new emerging technologies have one of the features that will change easily according to each user's demand and can provide in anticipation form in a real-time environment. Racheal, (2020) explained in his paper that the availability of technologies gives libraries the ability to offer improved customer-driven services to their users. As the web has been

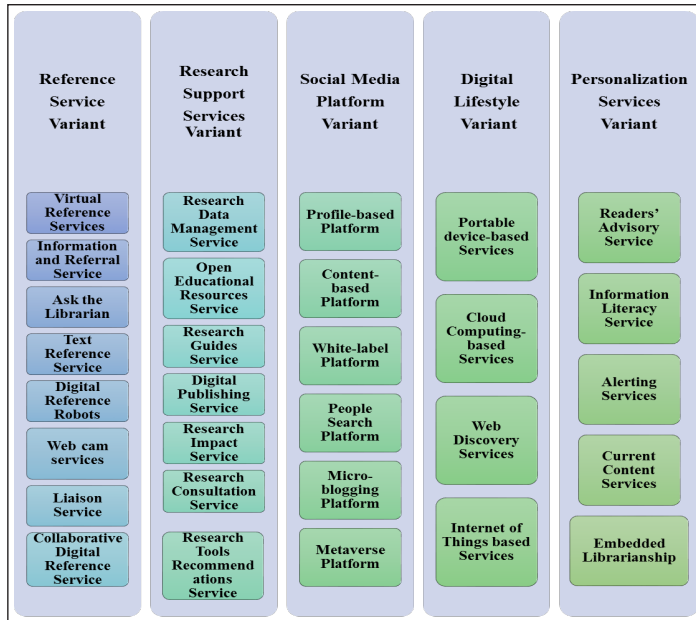
emerging predominant mode of communication, transaction, and consumption that has emphasized all spheres of human life. The web environment enabled human resource potential as the foremost significant factor in developing the world. Higher education, being the major stakeholder in human resource development must adopt newer technologies to reach the unreached and bridging the gap.

Librarians can use different variants of technology and designed library activity that include active participation and feedback from the user community. It helps libraries to provide necessary user-centric library services in the form of new resources. Emerging new variants in the field of library and information science services initiatives by the many libraries according to their user's requirements. It is indeed a challenge for most libraries to use even owing some of these technologies, mostly to lack of funds and lack of training of library professionals. So, there is a need for good administrative support and active participation of the main organisation.

EMERGING VARIANTS IN LIBRARY AND INFORMATION CENTRE SERVICES

In this paper, we discussed some of the most popular emerging variants and trends in library services, which are divided into five broad categories that is Reference Service Variant; Digital lifestyle Variant; Social networking Variant; Research support service Variant, and Variant in

personalization service. This study provides these new variants of library services in detail with examples of renowned national and international libraries, which provide these types of services.



Reference Service Variant

Reference services are the most important services of the library. It is the service that helps the users to find the information they need. The traditional reference services are still in use but with the help of emerging technologies, the reference services have been improved, some of the current reference service variants are as follows:

Virtual Reference Services: Virtual reference normally refers to digital reference services. This service is useful for remote-based users, and it's an online computer-mediated reference communication between the user and librarian. A virtual reference service is an extension of a library's existing reference service program. We can see that Oregon Tech Library of USA, already provide virtual reference services for their users with the purpose of real-time online reference help. The purpose of this service is to provide fast, real-time online reference help to users at the point of need (see Fig. 1).

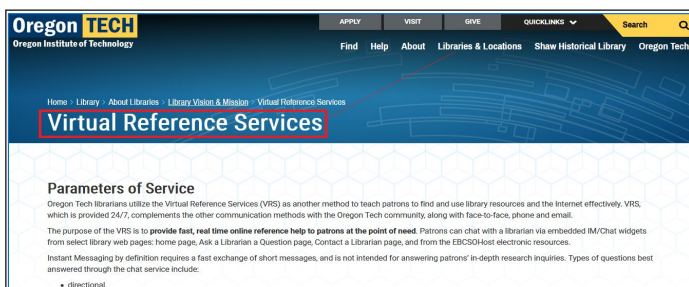


Fig. 1: Oregon Tech Library, USA

Information and Referral Service: This service is an integral feature of the many libraries. In this service, the patron is directed to the resources or organisations which could facilitate answer his/her queries or solve higher problems. Well-developed listening skills are essential for the delivery of Information and Referral Services, and providers may have the benefit of viewing varied resources involved with this subject.

Ask the Librarian: On the library's website, there is a structured web form called "Ask the Librarian" where users must have to respond to specific queries, in addition, to ask their questions. The form has to be accessed from the library's website home page. The user fills the queries in the form and sent to the librarian through submit button. Delhi Public Library, Delhi's website page shows how they provide the "Ask the Librarian" service. The library provides the appropriate answer maximum of three days (see Fig. 2).

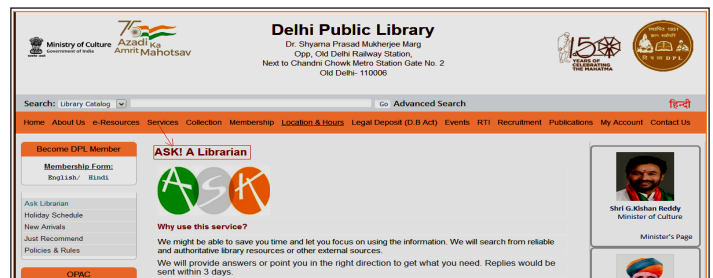


Fig. 2: DPL Library Delhi

Text Reference Service: If the library receives many types of inquiries that require brief answers, such as facts, definitions, details of data, or service information, then librarians may provide instant answers and real-time links to articles/references. Researchers, students, lecturers, and faculty members are now becoming a needy short-range reference inquiry that might be helpful for mobile-based Text Reference Services.

Digital Reference Robots: This service also called Ask Robots or chatbots service that works with the help of artificial intelligence. This service involves the software to search the database of question and answer which is commonly asked by the user. This service answer user queries when the reference librarian is not available and also provide answer 24x7 through the library's website.

Video Conferencing or Web Cam Services: Video Conferencing is introduced as a remedy to the communication issues inherent in text-based services. This digital form includes visual elements where users and librarians both can use text and speech transactions, and they can hear each other just similar to face interviews. This service is useful in distance learning, research, and reference applications, and can be found in off-campus library services of University libraries (Chandwani, 2010). During the COVID-19

pandemic, many academic libraries took initiative to apply these types of services like JNU Library Delhi start to provide a video conferencing service (see Fig. 3).

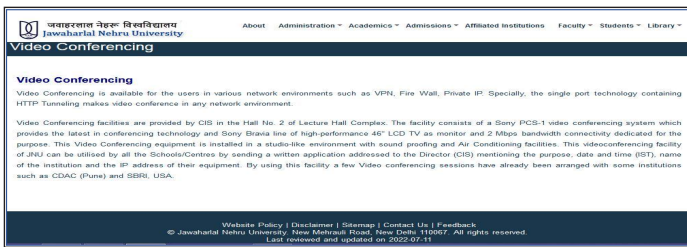


Fig. 3: JNU Library Delhi

Collaborative Digital Reference Service (CDRS): This is a free reference service project of the Library of Congress and more than 100 partner libraries from various countries. The mission of this collaborative venture is to provide professional reference services to users at anytime and anywhere through an international digital network of libraries and information centres. It is a worldwide network of libraries in which OCLC builds and maintains a database that includes three main components which are as follows: first, Member Profiles (contain information on strength and features of members); second, Request Manager: software for entering, routing, and answering reference questions; third, Knowledge Base: A searchable database for questions and answers for future use (Chandwani, 2010). This type of collaboration should be taken in India also by the library association for the betterment of the libraries.

Liaison Service: A library liaison is a staff member designated as the formal contact person between the library and a specific academic department. The primary role of a liaison is to foster communication between the library and the academic department. The liaison understands the information needs of his or her academic department and represents those needs within the Library. At the same time, the liaison is also fully knowledgeable about library resources and services and will present them effectively to his or her academic department (Lingnan University, 2021). The Lingnan University, Hongkong provides library liaison services in the Learning and Teaching support section (see Fig. 4).

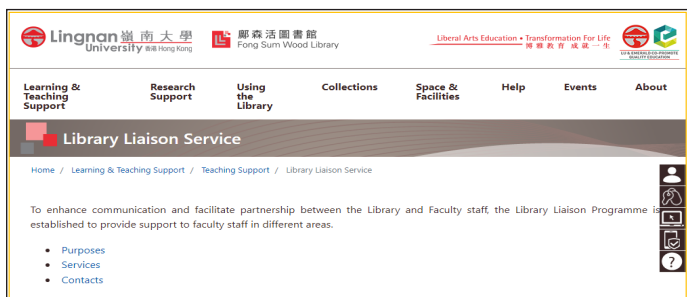


Fig. 4: Lingnan University Library: Liaison Service

Variants in Research Support Services

Research support services are services that help researchers with their research projects. These services can include providing access to research databases, helping to design research studies, providing statistical analysis, and helping to write research papers. They can also include providing advice on research methodology, helping to develop research proposals, and providing guidance on ethical considerations. Some of the emerging variants of Research Support Services are divided into seven categories as follows:



Fig. 5: Lingnan University Library: Research Support Services

Research Data Management Service: Research Data Management (RDM) services are increasingly offered by university libraries to support researchers in meeting funders' requirements for data management planning and to promote access to open research data. They provide support not only at the beginning and end of the research cycle but also share expertise and advice on best data management practices throughout the research projects (Matusiak & Sposito, 2017). Central Library of Tezpur University, Assam provide research support service as data analysis and data repository service.

Open Educational Resources Service (OERs): Open Educational Resources are the resources available in the public domain with an open license. To make open-access scholarly information more accessible and affordable to researchers, libraries tend to provide systematic and detailed open-access (OA) services, including OA introduction, OA gateway, OA policies, OA funding, journal checking, and publications deposition. Central library of Tezpur University, Assam provides an open electronic thesis and dissertation database.

Research Guides Service: A well-organised system can increase researchers' efficiency of access to academic resources in their respective fields. The goals of research guides include promoting collections and services, providing access to tools to complete a given research task, and providing disciplinary context for in-depth research needs.

Digital Publishing Service: It involves the organised production, dissemination, display, and preservation of

academic results in the form of books, periodicals, research data, and institutional repositories.

- *Authoring*: Including the provision of publishing strategies, and publication tools;
- *Production*: Including copyediting, designing, and printing;
- *Dissemination*: Including distribution, marketing; and
- *Preservation*: Including citation, archive, and metrics provisions.

Research Impact Service: Providing researchers with tools, methods, guidance, and training on measuring research impact by academic libraries can help researchers improve their scientific research and expand their academic impact. Researchers can measure their work by ORCID, Scopus Author Identifier, and Researcher ID, and obtain journal impact factor data from the Journal Citation Reports, Scopus Journal Analyzer, Eigenfactor.org, Google Scholar Metrics, SCImago Journal Rank, and so on.

Research Consultation Service: In this service, librarians can contribute in every step of the research of the researcher through consultation service. Librarians provide consultation services in research scholarship-related information, in the selection of research methods, in thesis writing problems, in data management methods and plagiarism checking related information too. Lingnan University of Hongkong provides Digital Publishing Service; Research Consultation Service; Research Impact Service and many other services in the Research Support Section of the library website.

Research Tools Recommendations Service: With the development of big data, researchers of not only natural sciences but also social sciences and humanities are faced with the need of data analysis, management, and presentation. Libraries provide research tool kits for scholars, like:

- Data analysis and management tools: SPSS, Stata and SAS.
- Desktop software, such as Endnote and Papers;
- Web-based tools, such as Mendeley and EndNote;
- Browser-based tools, such as Zotero.

Variant in Social Media Platforms

Social media platforms can be used in libraries to promote library services, engage with patrons, and provide access to library resources. Libraries can use social media to share news and updates, promote events, and provide access to digital resources. Libraries can also use social media to connect with patrons, answer questions, and provide customer service. Additionally, libraries can use social media to create online communities, share library resources, and collaborate with other libraries. Some of the emerging variants of Social media Services are as follows:

Profile-Based Platform: This is a profile-based social networking service, this service mainly includes members profile pages – which mostly consist of information about a library user and contain their picture, interests, likes, and dislikes. Facebook, Bebo, and MySpace are all good examples of this. Library users may develop their space in various ways and contribute to each other's spaces like leaving text, embedded content, or links to external messages or evaluation tools (see Fig. 6).

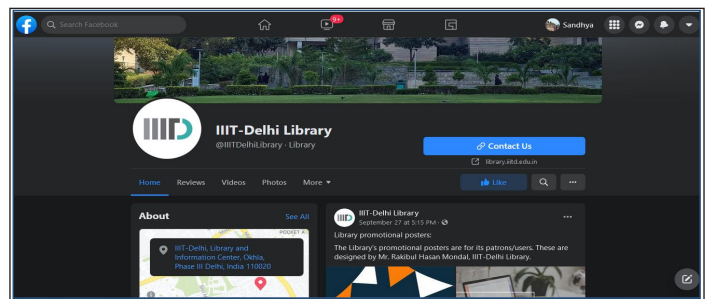


Fig. 6: IIT Library Delhi: Facebook Page

Content-Based Platform: In these services, the user's profile remains an essential manner of organizing connections however plays a secondary role in the posting of content. Photo-sharing site Flickr is an associate example of this sort of service, one wherever teams and comments are primarily based on the footage. Shelfari is one among the present crop of book-focused sites, with the member's "bookshelf" being a concentration of their profile and membership.

White-Label Platform: Most social networking services offer some group-building functionality, which allows users to form their own mini-communities within sites. Platforms such as People Aggregator and Ning, offer members a different model, based on the creation and membership of users' own social networking sites. These sites offer members the opportunity to create and join communities. This means that users can create their own "mini MySpaces," small-scale social networking sites that support specific interests, events, or activities (Sahoo & Sharma, 2015). Libraries should also provide space for the users to create their own space on the library's social media platforms.

People Search Platform: There are various kinds of social media platforms with people search services such as Wink, PeopleFinders, PeekYou, and TurePeopleSearch. Facebook, LinkedIn and Instagram also provide find friends or professional colleagues' services. These platforms generate results by searching across the public profiles of multiple social media platforms. This allows search by name, age, location, like, dislike, and other information published in profiles. This type of people search platform cuts across the traditional boundaries of social network site membership, though the data that is retrieved should already be public.

Micro-Blogging Platform: This is a short message type of service where libraries provide upcoming services or library activities with these micro-blogging social networking sites. Twitter and Koo are very famous micro-blogging sites that allow users to publish short messages of up to 140 characters, including spaces. They have interaction with users in perpetually updated spoken communication and make contact with their online networks. Like Delhi Public Library create tweeter page for its user's engagement and as a public library, it is very important to keep updating its users with the help of social media platforms.

Metaverse Platform: Metaverse is very popular nowadays and librarians should take the opportunity to induct their service into this type of social media virtual environment. There are many social media platforms like Second Life and World of Warcraft. These platforms provide online virtual environments and the environment is exactly the same as real life. In this virtual life, users allow to interact with each other in avatars form, which is a virtual representation of the site member. In this type of virtual social platform, users have profile cards, their own virtual profiles are the characters or avtar they customise or build and control according to their own creativity.

Digital Lifestyle Variant

A digital lifestyle variant service in a library could include a variety of services that help patrons to access and use digital resources. Digital technology is very helpful to store, disseminate and retrieve library collections that have resulted in the evolution of digital library services. Some of the digital lifestyle variants in the library are as follows:

Portable Device-Based Services: Portable device is the need of the hour of every field. For the benefit of library users or ease for them, the library must use portable device-based services. They will promote and expand their existing services by giving mobile access to their websites and online public access catalogues; by provision on-the-go mobile reference services and by providing mobile access to e-books, journals, and other documents of the library. Library services may be provided by using mobile tools and technologies for the benefit of the library users like Reference Services, Mobile Catalogue, QR codes, CAS, SDI, Mobile Applications, and many more services. Nowadays, many libraries introduce mobile applications for their library, like IIT Delhi library, took initiative too (see Fig. 7).



Fig. 7: IIT Library Delhi: Mobile Application

Cloud Computing-Based Services: Libraries are moving towards cloud computing technology in the modern world and taking the benefit of cloud-based services, particularly for creating digital libraries. Cloud computing offers several attention-grabbing opportunities for libraries which will facilitate to decrease in technology price and increase capability dependableness and performance for automation activities.

Dura Cloud, OCLC services, and Google-based cloud services are good examples of successful cloud-in libraries in the development phase.

Web Discovery Services: In the web discovery services, library users can search all library resources with a single query like the Google search service. Web discovery services search a unified index covering subscriptions to full-text databases like the Digital Library, A&I databases, the library's own collections, and lots of alternative sources. Some of the web discovery services are EBSCO discovery services, IEEE Discovery services, and ProQuest-ExLibris Primo. Dr. B.R. Ambedkar Central library of Jawaharlal University, Delhi provides web discovery service with help of EBSCO discovery search.

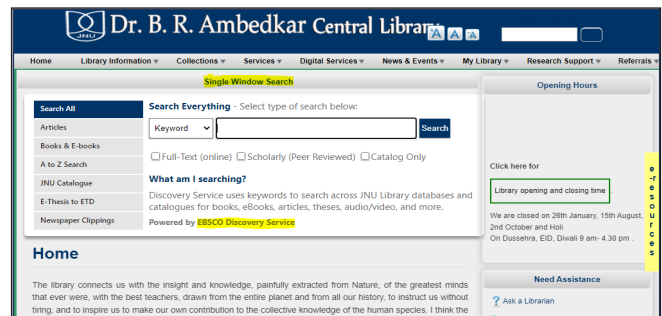


Fig. 8: JNU Library Delhi: Single Window Search

Internet of Things Based Services: The Internet of things (IoT) is the Internet connectivity between the physical devices used in everyday work. Connected with electronics, Internet connectivity, and other types of hardware (such as sensors), these devices can communicate and interact with each other with the help of the Internet, and they may be remotely examined and controlled. They can "communicate" with one another without people's intervention by using the internet, sensors, and RFID. With IoT through RFID use in the library for providing library services, the users no need to come to the circulation desk, they can check for the document overdue on his/her mobile. Users also reserve books that are already issued, when the book is returned an automated message is received by the demanding user. This service is also useful for e-books.

Variant in Personalization Services

Personalization services in libraries are services that allow library patrons to customize their library experience.

These services can include personalized recommendations, tailored search results, and personalized library newsletters. By providing these services, libraries can better meet the needs of their patrons and provide a more enjoyable library experience. Several initiatives have been offered in personalized services, some of the services are as follows:

Readers' Advisory Service: Libraries also offer advisory services to the readers together with online book lists and recommendations. This service delivers users the information they need to select a book. It is a value-based service and matches the user with an accurate book. The reference personnel should be able to convey their suggestion or recommendation in a friendly, respectful and conversational manner.

Information Literacy Service: The purpose of the information literacy services is to aware library users about the library. How does the library work, what are the activities and services of the library, how they can use all of the services, and many more questions related to the library? With the help of new advancements in technology, libraries provide information literacy services in virtual and web forms. Department of East Asian Studies library of University of Delhi provides Information Literacy tutorials to the students.

Alerting Services: Library Alerting services are the most popular service among users because they provide current information in areas of research or subject interest of library users. With the help of this service users do not need to track the latest variant in their respective field or subject, the library takes care of that. Libraries may provide alerting services with different names and with different methods. Mostly, email alerts are preferred for this service.

Current Content Services: In this service, libraries make collections available via open, personalized, interactive services that encourage content creation. Library uses Twitter, Digg, Footnote, Stumble Upon, and other social networking sites to keep staff and patrons updated on the current content services of the library. This service is also called a Recent Collection service or new arrival or acquire service.

Embedded Librarianship: Embedded librarianship is a type of librarianship in which a librarian is assigned to a specific department or group within an organisation. The librarian works closely with the department or group to provide research assistance, instruction, and other library services. The librarian is embedded in the department or group and is seen as a part of the team. This type of librarianship is becoming increasingly popular in academic, corporate, and government settings. There are many central university libraries that provide embedded librarianship services, such as IGNOU-Indira Gandhi National Open University, DULS-Delhi University Library System, IIT-Indian Institute of Technology, Delhi, and so on.

CONCLUSION

In conclusion, the emergence of new technologies has provided libraries with the opportunity to improve user-centered services and to facilitate and promote collaboration between libraries and their users. Emerging new variants of library and information services provide library professionals with a great opportunity to work with the users and promote their collaboration in library activities with the help of emerging information technology variants. Implementing these technologies in library services and activities can improve the reputation of libraries and reflect their need in society. The convenience of technologies provides libraries the ability to supply improved technological services to their users because the internet has been a rising predominant mode of communication, transaction and consumption that has stressed all spheres of human life. Cyberspace surroundings enabled human resource potential because the foremost vital consider developing the planet. New emerging services are definitely used by the libraries to attract new patrons to the library or retain existing patrons of the library and make libraries more interesting, more significant, and a better acceptable place.

REFERENCES

- Bhairab Ganguly College. (2021). Librar. Retrieved from <https://bhairabgangulycollege.ac.in/student-support-services/library/>
- Chandwani, A. (2010). An overview of digital reference services. *The Serials Librarian*, 58(1-4), 182-187. doi:<https://doi.org/10.1080/03615261003625729>
- DPL Library. (2021). *DPL Library*. Retrieved from <https://dpl.gov.in/index.php/ask-librarian>
- IIT Delhi. (2021). *Facebook - IIT Delhi library*. Facebook Page-IIT Library, Delhi. Retrieved from https://www.facebook.com/unsupportedbrowser?hc_ref=ARR4AjKJ2RV_TE3iYTtsBk1LrZvcW06elbmBwOKREZ8yOURkpvngwGB4PKDSppYadjk&fref=nf&__tn__=kC-R
- IIT Delhi. (2021b). *Single window search for IIT Delhi e-resources - Apps on Google Play*. IIT Library Delhi. Retrieved from <https://play.google.com/store/apps/details?id=com.iitdelhieds&hl=en>
- Kumari, S. (2019). Comparative study of OPAC, Web-OPAC and AIRPAC: Next generation of online library catalogues. *KIIT Journal of Library and Information Management*, 6(2), 189. doi:<https://doi.org/10.5958/2455-8060.2019.00024.7>
- Kumari, S. (2014). From brick to click: Transforming South campus library into a fully automated and secure learning resource centre paper. From Brick to Click: Transforming Libraries into Social Spaces, Delhi.

- Kumari, S. (2020). How libraries kept the lock, down in lockdown. *International Journal of Knowledge Management and Practices*, 8(2), 28-32. Retrieved from <http://www.publishingindia.com/ijkmp/57/how-libraries-kept-the-lock-down-in-lockdown/20934/2>
- Kumari, S. (2015). Use of e-Journals by the faculty members and research scholars of department of Zoology and department of Botany of University of Delhi: A study. *International Journal of Library and Information Studies*, 5(1), 35-48.
- Linghan University. (2021). *Library liaison service*. Fong Sum Wood Library. Retrieved September 30, 2021, from <https://www.library.ln.edu.hk/en/learn/teach/liaison>
- Matusiak, K. K., & Sposito, F. A. (2017). Types of research data management services: An international perspective. *Proceedings of the Association for Information Science and Technology*, 54(1), 754-756. doi:<https://doi.org/10.1002/pra2.2017.14505401144>
- Nahar, M., & Akhter, R. (2006). Resource sharing, networking and library consortia: Problem and prospects in Bangladesh. *Business*, 9-10.
- Oregon Tech Library. (2021). Virtual reference services | Oregon Tech. Retrieved from <https://www.oit.edu/library/about/mission/vrsvc>
- Panda, S. (2020). Mobile librarianship: An initiative of new normal. *International Research Journal of Multidisciplinary Studies*, 6(9), 15-25. doi:<https://doi.org/10.31235/osf.io/u3rn7>
- Racheal, A. O. F. (2020). Global trends and emerging technologies in libraries and information science. *Library Philosophy and Practice (E-Journal)*.
- RMIT University Library. (2021, September 15). *All guides: Staying current with your research: Alerting services*. RMIT University. Retrieved from <https://rmit.libguides.com/stayingcurrent>
- Sahoo, D., & Sharma, D. (2015). Web 2. *MyJournal*, 1(3), 1-75. Retrieved from www.url2.com
- Tezpur University Library. (2021). *Research Support*. Tezpur University. Retrieved from <http://www.tezu.ernet.in/Library/index.php/research-support>