

## Digital transformation of academic libraries: Opportunities and challenges

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### Abstract

The times are changing. With Internet access and electronic reading devices, visiting the library is no longer a necessity for today's students. The library has changed a great deal over the past decade, due to changing demands from researchers, teachers, and learners and the onset of a digital revolution of library holdings. Digital transformation is powered by disruptive digital technologies, insights, and processes. The key focus of digital transformation is on transforming for the digital age by influencing customer experience, innovation, and efficiency. The big challenge with digital transformation is 'how fast and how far should organizations go on their digital transformation path'. Digital transformation journey is complicated and involves varied objectives, complexities, and covers a vast area. It requires a coherent and well-organized digital strategy to effectively address technology and process transformation together with supporting governance and delivery models.

**Keywords:** Digital age, Academic libraries, Transformation, Digital transformation.

### Introduction

Within the expanding digital information arena, digital literacy is a highly sought competency among librarians, as library services are now offered through a range of media, including social network sites, mobiles phones or even virtual words. With the ubiquitous availability of digital information in different media forms and the ease of searching on the Web, with the advent of search engines such as Google and Bing, library staff are also expected to constantly remain up-to-date with different approaches followed for sourcing, creating and sharing information that are not necessarily supported within the formal academic environment and should reach out to students in more direct and meaningful ways. Digital libraries and the digital transformation of heritage information have been identified as the most viable areas to be developed in an effort to strengthen the information basis of the community.

The digital age has brought transformative change to the scholarly information environment and has dramatically changed the way faculty and students use libraries. Library users have a diversity of information needs and libraries worldwide are responding to the challenges of the digital age by rethinking approaches to library facilities, services, and collections.

There are many external factors forcing transformative change in libraries, such as shifts in scholarly communication and how research is published and disseminated, technology that allows users to access information without intermediation, user demands for access to new types of scholarly information (e.g. data sets, multimedia resources), and accelerated globalization. Learners and researchers have new demands due to the complexities of blended learning, experiential learning, distributed learning and the concomitant need for mobile content delivery, increased focus on research data management and data

mining, and increased options for disseminating research.

This all translates to changes in user demands for space and services, including decreased demand for print collections. The topic of collections can be difficult to tackle even though most faculty and students know how much they rely on online access to information resources. This will allow for the transformation of library spaces to meet the needs of students, staff, and faculty in today's digital information age.

**Need for digital transformation of Academic Libraries:** The Academic Library creates a sense of community and fosters connectedness to enable and enhance learning and discovery in all areas. The library promotes engagement through collaboration, both formal and informal, to aid learners, teachers, researchers, and scholars in achieving their academic and research goals.

The main objectives are,

1. To meet the diverse information and programming needs of library clients through flexible, multifunctional spaces.
2. To create inspiring spaces and innovative services to cultivate creativity and inventiveness.
3. To offer specialized areas to encourage learning through experience and innovative research.
4. To provide spaces to meet diverse user needs, with a focus on inclusivity.
5. Include a range of spaces that will encourage private study and learning ("me" space), small group learning and collaboration ("we" space), and large group community space ("us" space).
6. To provide abundant user-friendly technology and IT resources, along with support for using personal devices, to allow for effortless access to information and virtual libraries.

7. To ensure safe, welcoming, and comfortable spaces through user-focused furniture, equipment, and design.
8. To utilize access to natural light for maximum effectiveness wherever possible.

**Digital Transformation of Academic Library:** As technology continues to evolve, the academic library has been compelled to re-imagine and redesign the development and delivery of its programs and services. “While the primary mission of the academic library has always been to support the curriculum, the concept has been enhanced considerably given the technology needs and expectations of today’s students.”

In a rapidly changing educational environment, providing students with an education that is cutting edge on all accounts is essential to remaining competitive. But it’s not always easy, especially when technology continues to advance at an increasingly rapid pace. However, universities and colleges willing to take a new look at old buildings are not only making wise investments, but discovering untapped resources that are allowing them to advance the mission of the institution and improve market position. For the library to remain a relevant part of the academic experience, it must be fully accessible, adaptable, entrepreneurial, digitally sophisticated, and focused on offering the blend of spaces and services demanded by its ever changing users.

**Opportunities:** Considering new uses for libraries can add value to proposed renovations. Many academic libraries are making available a number of essential student services such as a writing center, counseling and advising services, tutoring, disability services, enhanced technology lab spaces, multi-functional device (e.g., tablets, smart phone, etc.) and laptop lending services, practice presentation areas, group and individual work spaces, greater access to digital production facilities in video, audio, music, photography, distance learning course support and functional use of satellite and cable technologies.” Libraries are among the first places prospective students and their parents visit in the academic institution. The library has the potential to create a positive and memorable first impression to promote institutional mission, academic culture and cater to the needs of today’s learner.

1. Crafting the user experience: Both seasoned researchers and newcomers need intuitive interfaces for navigating libraries' huge stores of data.
2. Delivering mobile content: Libraries adjust to the expectations of user’s accustomed consuming mobile-friendly websites, apps, and e-books.
3. Recording scholarly research: This becomes more complex as research encompasses datasets, visualizations, and other new media.

4. Managing research data: Thanks to electronic publishing, users are hungry to explore how content connects and interacts over time.
5. Providing open access: Major initiatives by the National Science Foundation and others show that open access is going main stream.
6. Rethinking design: Library environments are better reflecting how libraries are actually used by students and including areas for study and hands-on work.
7. Online learning: A well-established pillar of higher education, libraries is increasingly playing a role in guiding faculty and developing their own online resources.
8. The Semantic web: A new computer science field that seeks to intelligently relate pieces of information online, the technology could allow for more accurate searches of library catalogs and databases.
9. Location-based services: Researchers could see new ways to discover and interact with content soon, such as indoor mapping technology.

**Challenges:** The transformation of academic libraries in this digital age have facing some hurdles. Although these challenges vary depending upon the individual university or college, several are common regardless of the institution.

1. Lack of a clear, overarching vision.
2. Lacking a clear understanding of their changing roles, from archivists to student resources with a blend of capabilities, library staff fails to buy into the vision. A successful renovation begins with everyone onboard from the beginning.
3. Beginning a renovation without knowledge of available funds, the estimated cost of the project and the funding source (donors, public dollars or loans), severely limits or prevents real progress. Another potential limiting factor arises when financial resources are linked with donor expectations that may not be consistent with the values and core mission of the academic institutions.
4. With library transformation, “timeless” quality of design is preferable to trendy styles that quickly become outdated.
5. Problems arise when there is no passionate lobbyist at the highest level to sell the importance of the library’s viability to constituent groups, such as upper administration, faculty, students and staff. This is because each group will have its own issues. For this reason, it is absolutely necessity for a particular individual to articulate the need to move into the future and make the case for change.
6. Essential to this process of transformation is the selection of a planner/designer who can demonstrate the benefits of a library for the present and for the future life of the institution.

7. Inability to balance the strategic with the tactical. Sometimes the vision is clear, but the process of implementation lacks clarity.
  8. The institution needs to appoint a person who is empowered to make decisions on behalf of the academic Institution.
  9. Disregard for engaging the library's "customers." i.e. students and researchers.
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### Conclusion

Technology has transformed additional services traditionally offered by libraries. For instance, online reading lists have been widely adopted by academic libraries as an effective means for creating, editing, personalizing, updating and integrating reading lists into online learning and teaching material, helping students to connect directly and seamlessly with the reading resources of their courses. In addition, academic library staff can readily address the needs of academics for ordering books, as well as their training needs for managing and maintaining their reading lists. This undoubtedly also creates new needs.

Therefore, information skills instruction may require a better understanding of students' contemporary information practices in everyday life and how this affects their approaches to academic information sources. Furthermore, it creates new roles for academic libraries in terms of advocating the development of information literacy in students and following more collaborative approaches with academics that will enable them to highlight its value by incorporating it within the learning objectives of different courses. This also means that libraries need to keep up-to-date with current research in the area of information literacy and develop more embedded relationships with academic staff.

In particular, academic libraries have demonstrated tremendous adaptability for serving the needs of a larger and more diverse student body (including developments in distance and blended learning) and services are now much more user-driven and tailored in response to the demands of 24-7 access to resources across a wide variety of platforms. Furthermore, academic libraries have also played a key role in the implementation and governance of open access mandates and enabled researchers to widen the reach of their research by the management of institutional repositories and data management.

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