

Library Automated System and Usage in Achieving Sustainable Academic Excellence of Students in Colleges of Education in Delta State

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Abstract

The growth and development of Information and Communication Technology (ICT) is playing vital role in the field of library and information science and library automation system in particular. The present paper assessed library automated system and usage in achieving sustainable academic excellence of students in colleges of education in Delta State. The implementation of a library automation system is a pivotal step for libraries in their quest for enhanced efficiency, improved accessibility, and elevated user experiences. While the adoption of such systems brings undeniable advantages, various challenges may hinder their successful integration. This paper discussed the concept of library automation system and concept of sustainable academic excellence. Also, library automation system and students' sustainable academic excellence was also discussed in this paper. This paper further explores the advantages of library automation system, barriers to library automation system and solutions to barriers to the library automation system in sustainable academic excellence of students in Colleges of Education in Delta State. The paper recommends that before selecting an automation system, conduct a comprehensive assessment of your library's specific needs, workflows, and goals. This will help choose a system that aligns closely with your requirements. Also, involve library staff, administrators the decision-making process. Their input can provide valuable insights into system features and customization needs among others.

Background to the Study

The development of Information Communication Technology (ICTs) is gradually changing the operations of academic libraries in world, with the speed of technological transformation in the development of information networks and electronic services in recent years; automation of library services has aided to expand the role of the academic libraries. Hence, the creation of computer systems in the libraries towards maintaining efficiency has brought rapid growth to the centralized resource sharing among libraries and has changed the definition of librarians and libraries (Aswal, 2006). Consequently, the merging of computing has significantly affected the delivery of libraries and information services by making information related task easier. However, in recent year, Information Communication Technology has brought about paradigm shift in libraries from the traditional methods of operations to a new concept called Automation (Samuel & Echenzona, 2013).

Library Automation according to Sharma (2007) is the use of automatic and half automatic library actions as acquisition, circulation and cataloguing. However, these functions were performed traditionally in the 90s and observed that library automation is entirely different from automatic indexing, information retrieval, abstracting e.t.c. Yakubu (2014) sees library automation as the application of mechanical and electrical devices to carry out certain task in the library which is formally performed manually. It is the application of computer technology to acquire, organize and disseminate information quickly and accurately as possible. According to Das and Chatterjee (2015), library automation is the application of automatic and half automatic data processing mechanism to perform traditionally library house activities such as cataloguing, acquisition, circulation, reference and serial control. Library Automation as posited by Aswal (2016), is the computerization or mechanization of all library activities such as acquisition, circulation, cataloguing, serials and Online Public Access Catalogue (OPAC).

Application of automated system in library management entails involvement and use of ICT equipment in the general operation of libraries. This is of paramount due to the nature of activities in library, library automation refers to utilizing advanced technologies and software solution to streamline and enhance the operation and services within a library. Using technology to carry out functions in the library will promote effectiveness. The need for application of automated system to manage them is necessary. Library automation leverages cutting-edge systems and tools to automate and digitalize various aspects of library operations. The major component of library automation system is to adopt an integrated library management system (ILMS) which can also be called a library management software (LMS) this software enables library management to manage collections, track items and provide services to users which will allow students as part of library users to explore all opportunities available to sustain academic excellence with effective use of library resources. However, library automation extends beyond the management of physical collection, it encompasses digital libraries and online resources, providing access to e-books, e-journals, multimedia resources and database among others.

The application of computer and modern ICT based technologies (automated system) has brought a major change in the entire library processes and service delivery which has also helped in achieving sustainable academic excellence of students. Academic excellence is simply the demonstrated ability to perform, achieve, and/or excel in scholastic activities. Academic excellence is not limited to achieving good grades only, but academic excellence is characterized by its ability to achieve high grades and the ability to achieve unique performance among peers. To achieve academic excellence, it is essential to create an environment that fosters the development of a community that can grow intellectually, socially, and ethically, and is therefore able to pursue successful and fulfilling careers. Therefore, using automated library system can go a long way in improving and sustaining students' academic excellence giving them more room to explore technological equipment.

Concept of Library Automation System

Library automation system is the process of automating in house functions such as circulation, cataloguing, acquisition, serial controls etc. Automation means, the application of machines to perform the different routines, repetitive and clerical jobs involved in functions and services of the libraries. Library automation system may be defined as the application of automatic data processing computers to perform traditional library house-keeping activities such as acquisition, circulation, cataloguing, reference and serials control. Today Library Automation is by far the most commonly used terms to describe the mechanization of library activities using the computer (Uddin, 2009). Library automation system can also be described as the application of computers and utilization of computer-based products and services in the performance of different library operations and functions in the provision of various services and production of output products. There is a great impact of computers and information technology and its application on the library due to a process of great change taking place in libraries. Modern technology is tending to alter radically the nature of our society and affect the prevailing economic, political and social values and libraries are also in the process. Industrialized countries were the first to realize that in the context of stock of knowledge, classical approaches relating to storage, retrieval and utilization of the information were no longer adequate and effective and that the solution lay in making fullest use of new developments in electronics, computer, telecommunications and micro-recording.

Library automation makes work easier in the library. The following are some of its reasons; Avoid retyping if we want to include or delete any matter, thus saving time and energy; Retrieve much more precise and accurate information in less time as compared to manual search; Get printed list of a specific subject within a few minutes; Heavy bulk of data can be stored in the computer and thus certain problems, which arise with storing records in wooden cabinet, are avoided (Hussain & Raza, 2002). Due to these advantages of a computer, computer became a universally accepted tool to provide assistance to man in all fields. In the field of Library Science, the need for making use of computers.

Some Library Automation software is; Alice for Windows, Automated Library (AUTOLIB). The Information Navigator Library Software (TINLIB), Graphic Library Automation System (GLAS), Web-Based Integrated Library System (WEBLIS), Koha, Automation of Libraries and Centres of Documentation (ABCD), Evergreen Software, Integrated Library Management System, Newgenlib, Computer Documentation System/ Integrated Set of Information Systems (CDS/ISIS).

Concept of Sustainable Academic Excellence

Sustainable academic excellence according to Sterling, Maxey and Luna (2013), refers to the consistent achievement of high educational standards and accomplishments over a prolonged period while maintaining a focus on long-term viability, growth, and positive impact. It involves creating an environment where academic excellence is not just a short-term goal but is built upon principles that ensure the ongoing success of educational institutions, programs, and students. Sustainable academic excellence involves maintaining a balance between immediate goals and long-term planning, all while staying responsive to the evolving needs of students and society. It requires a holistic approach that considers academic, social, financial, and environmental factors. Here are some key components and strategies that contribute to sustainable academic excellence:

1. **Quality Education:** The foundation of sustainable academic excellence is providing high-quality education that equips students with knowledge, critical thinking skills, and practical expertise. Quality teaching methods, up-to-date curriculum, and effective assessment practices are essential.
2. **Research and Innovation:** Promoting research and innovation enhances the reputation of academic institutions. Encouraging faculty and students to engage in meaningful research projects can lead to advancements in various fields.
3. **Student-Centered Approach:** Prioritizing the needs and well-being of students creates an environment where they can excel academically. Providing academic support services, mentorship programs, and extracurricular opportunities contributes to student success.
4. **Inclusivity and Diversity:** Creating an inclusive and diverse learning environment fosters a rich exchange of ideas and perspectives. This contributes to academic excellence by encouraging cross-cultural understanding and collaboration.
5. **Continuous Improvement:** Institutions should engage in a process of continuous improvement, regularly evaluating and refining programs, policies, and services to meet evolving educational needs.
6. **Environmental Responsibility:** Sustainable academic excellence also encompasses environmentally responsible practices. Implementing green initiatives and promoting environmental awareness aligns with a commitment to long-term well-being.
7. **Adaptation to Change:** The educational landscape is constantly evolving. Institutions that embrace change, technology, and new methodologies remain relevant and innovative.

Advantages of Library Automation System

Many activities of a library are routine in nature; a few are repetitive. Automation of these activities helps in managing the library's resources in a better way at the same time saving time, money and manpower. For example, once the bibliographic details like author, title, edition, publisher, price, ISBN number, etc are entered at the time of ordering, the same data can be used for accessioning, cataloguing (OPAC), and circulation. Other important factors associated with automation are speed, and accuracy. One can imagine the time saved in literature searches and in preparing bibliographies. Automation also offers freedom from doing repetitive and routine work as well as enables providing services promptly and more efficiently, cutting down on time and improving productivity. Automation facilitates generation of a number of reports for better decision making in the effective management of the library. Availability of various statistical and other usage reports and performance reports will ensure better appreciation from library users. For example, vendor performance analysis is possible. Subject-wise or project department-wise budget can be monitored. Circulation data can provide information on titles that are in great demand so that more copies can be procured if needed. Many current awareness services like current additions, contents of books and journals, etc can be provided to users (Moorthy, 2004). A library automation system significantly modernizes and enhances the functioning of libraries, leading to improved user experiences, better resource management, and informed decision-making. It enables libraries to meet the demands of the digital age while continuing to provide valuable services to their communities.

Library Automation System and Students Sustainable Academic Excellence

According to Aswal (2006), library automation is pivotal to librarian effectiveness because it increases staff productivity, enhances housekeeping operations, enables advancement in technology and easy access to external information through the Internet. The usage of a library automation system can have a positive impact on students' academic excellence by providing them with improved access to resources, efficient research capabilities, and enhanced learning experiences. Incorporating a library automation system into an educational institution not only improves the efficiency of library operations but also plays a crucial role in promoting students' academic success. It empowers students to become independent learners, efficient researchers, and critical thinkers, contributing to their overall excellence in academia. Sudhamani (2010), supporting the above enumerated how a library automation system can contribute to students' academic success:

- 1. Access to a Wide Range of Resources:** Library automation systems provide students with access to a vast collection of books, journals, e-resources, and multimedia materials. This diverse range of resources supports students' research needs and enables them to explore various topics in depth.
- 2. Efficient Search and Retrieval:** With advanced search features and user-friendly interfaces, library automation systems help students quickly locate relevant materials. This saves time and frustration, allowing students to focus more on studying and less on searching for resources.

3. **24/7 Accessibility:** Many library automation systems offer online catalogs and digital resources that are accessible around the clock. This flexibility empowers students to engage in research and learning at their own pace, whether they're on or off-campus.
4. **Personalized Learning:** Some library automation systems offer personalized features, such as recommending related resources based on students' interests and previous searches. This feature helps students discover materials they might not have found otherwise, enriching their learning experiences.
5. **Efficient Resource Management:** Library automation systems streamline the borrowing and returning of materials. Students can easily check out and renew items online, reducing the likelihood of overdue fines and ensuring they have access to materials when needed.
6. **Enhanced Research Skills:** By navigating the automation system's databases and catalog, students develop essential research skills, such as refining search queries, critically evaluating sources, and finding scholarly materials.
7. **Digital Literacy:** Interacting with online library resources and platforms helps students improve their digital literacy skills, which are essential for success in the digital age.
8. **Stress Reduction:** With intuitive interfaces and simplified resource management, library automation systems help alleviate stress related to finding and using materials, allowing students to focus more on learning and academic achievement.

Barriers to Library Automation System

Library automation system brings great changes in the functioning of the library ensuring effective and efficient library services. In spite of these great advantages there are many barriers which occur at the time of implementing the automation in libraries. Raiz (2008) has given the following as barriers faced by the library during automation. Fear of adverse impact on employment, apprehension that the technology could be too expensive, the library staff has to undergo extensive training, lack of support from the management, may be owing to budget constraints, retrospective conversion of data. Some of the common barriers according to Lisedunetwork (2023) include:

1. **Financial Constraints:** Implementing a library automation system can require a significant upfront investment in terms of software licenses, hardware, staff training, and ongoing maintenance costs. Smaller libraries or those with limited budgets might find it challenging to allocate funds for these expenses.
2. **Lack of Technical Expertise:** Library staff members may lack the technical skills required to effectively operate and maintain the automation system. Training and support are essential, but if the system's complexity exceeds staff capabilities, it can lead to frustration and underutilization.
3. **Resistance to Change:** Libraries with long-standing manual processes might face resistance from staff members who are accustomed to traditional methods. Introducing a new system can disrupt established routines and require a change in mindset.

4. **Data Migration Challenges:** Migrating existing data from manual records or legacy systems to a new library automation system can be complex and time-consuming. Ensuring data accuracy and integrity during migration is crucial for a successful transition.
5. **Integration Issues:** Libraries often use multiple software applications for various purposes (e.g., cataloging, circulation, e-resource management). Integrating a new automation system with existing software can be difficult if compatibility issues arise.
6. **Vendor Lock-In:** Depending on the system chosen, libraries might become dependent on a specific vendor for ongoing support, updates, and customization. This can limit the library's flexibility and potentially lead to higher costs over time.
7. **Customization and Flexibility:** Some library automation systems may lack the level of customization needed to match the unique workflows and requirements of a particular library. A rigid system might force the library to adapt its processes to fit the system, rather than the other way around.
8. **User Training:** Proper training is essential for library staff to make the most of the automation system. Inadequate training can lead to inefficiencies, errors, and underutilization of system features.
9. **User Experience:** If the user interface of the automation system is not intuitive or user-friendly, it can lead to frustration among both staff and patrons. A poor user experience can deter users from fully engaging with the system.
10. **Maintenance and Updates:** Ongoing system maintenance, updates, and troubleshooting are necessary to ensure the system's smooth operation. Libraries might struggle with keeping the system up to date and addressing technical issues promptly.
11. **Privacy and Security Concerns:** Libraries handle sensitive patron data, and the automation system must adhere to stringent privacy and security standards. Failure to address these concerns can lead to breaches of personal information.
12. **Transition Period:** During the transition from manual processes to an automation system, there might be a learning curve for both staff and patrons. This temporary period of adjustment can impact overall productivity.

Overcoming these barriers requires careful planning, sufficient resources, effective training, and a commitment to addressing challenges as they arise. Libraries that successfully navigate these obstacles can enjoy the many benefits that library automation systems offer in terms of efficiency, improved services, and enhanced user experiences.

Solutions to Barriers to the Library Automation System

Certainly, there are several solutions and strategies that libraries can implement to overcome the barriers to adopting and effectively using a library automation system, here are some potential solutions (Lisedunetwork, 2023):

1. Emphasize the role of library staff as crucial in providing personalized services, research support, and expertise that technology cannot replace. Invest in staff training to enhance their skills and abilities in utilizing automation tools, enabling

- them to take on new responsibilities and contribute to the library's evolving role.
2. Conduct a cost-benefit analysis demonstrating the long-term savings and efficiencies of automation. To alleviate financial concerns, explore funding options, such as grants or collaborations with other institutions. Consider open-source or cloud-based solutions that can reduce upfront costs.
 3. Extensive Training Requirements for Library Staff: Develop comprehensive training programs tailored to library staff's specific needs. Provide accessible training resources, workshops, and ongoing support to ensure staff feels confident and empowered to utilize automation tools effectively.
 4. Advocate for the benefits of automation and its alignment with the institution's strategic goals. Present a clear business case that highlights the long-term cost savings, improved services, and enhanced user experience that automation can bring. Collaborate with management to explore alternative funding sources or reallocate existing resources to support automation initiatives.
 5. Security Concerns: Implement robust security measures, such as encryption, authentication protocols, and regular system audits, to address security concerns. Engage with IT experts to ensure the automation system's integrity and proactively address potential vulnerabilities. Communicate the security measures in place to build trust among staff and users.
 6. Stay informed about emerging technologies and trends in library automation. Engage in continuous professional development to keep library staff updated and confident in utilizing new technologies. Foster a culture of innovation and adaptability within the library, encouraging staff to embrace new technologies as tools to enhance their work.
 7. Establish a strong partnership with automation vendors and providers who can offer technical assistance and ongoing support. Invest in training library staff to handle basic technical issues and troubleshoot common problems. Develop a helpdesk or support system to address staff and user concerns promptly. By proactively addressing these barriers through careful planning, stakeholder engagement, and strategic decision-making, libraries can successfully implement and leverage a library automation system to enhance their operations, services, and user experiences.

Conclusion

The paper looked at library automated system and usage in achieving sustainable academic excellence of students in Colleges of Education in Delta State. In conclusion, the implementation of a library automation system is a pivotal step for modern libraries seeking to enhance their efficiency, accessibility, and overall impact. While challenges such as financial constraints, technical barriers, and resistance to change may arise, they can be effectively addressed through strategic planning, collaboration, and a commitment to continuous improvement. The benefits of a library automation system are far-reaching, touching both library staff and librarians alike. Library automation systems empower libraries to provide a seamless and user-friendly experience, enabling librarians to access a wide range of resources, engage in efficient research, and make the most of their

academic pursuits. These systems streamline operations, from cataloging and circulation to reporting and data analysis, freeing up valuable staff time for more meaningful tasks and decision-making. With features like personalized recommendations, integrated digital resources, and remote access, automation systems support learning and research beyond the library's physical walls.

The journey towards sustainable academic excellence is supported by library automation systems. As libraries adapt to changing technologies and user expectations, these systems play a crucial role in promoting data-driven decision-making, promoting collaboration, and enhancing resource sharing among institutions. With a user-centric approach and a focus on ongoing training, libraries can overcome barriers, embrace innovation, and create an environment that fosters learning, research, and intellectual growth. In an age where information is readily available and rapidly evolving, library automation systems empower libraries to remain relevant and impactful. By leveraging these systems, libraries can continue to be vital pillars of education, knowledge dissemination, and community engagement, ultimately contributing to the enrichment of individuals and society as a whole.

Recommendations

Certainly, here are some recommendations to consider when implementing a library automation system to ensure its successful adoption and ongoing effectiveness:

1. Before selecting an automation system, conduct a comprehensive assessment of your library's specific needs, workflows, and goals. This will help choose a system that aligns closely with your requirements. Also, involve library staff, administrators in the decision-making process. Their input can provide valuable insights into system features and customization needs.
2. Secondly, research and evaluate different vendors and their products. Consider factors such as user reviews, customer support, flexibility, and integration capabilities. Also, invest in thorough training for library staff to ensure they are comfortable and proficient in using the automation system. Training should cover all key aspects, from basic operations to advanced features.
3. Develop a detailed plan for migrating existing data to the new system. Ensure data accuracy, integrity, and proper testing before fully implementing the system.
4. Develop a long-term plan for system maintenance, upgrades, and staying current with technological advancements. Regularly evaluate the system's effectiveness and relevance.

By incorporating these recommendations, libraries can effectively overcome challenges, maximize the benefits of their library automation systems, and provide enhanced services to their communities. The successful implementation of such a system can lead to improved user experiences, streamlined operations, and greater sustainable academic excellence of students.

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