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IMPACT OF ONLINE CATALOGUING SYSTEMS ON CATALOGUER'S PRODUCTIVITY IN UNIVERSITY LIBRARIES IN RIVERS STATE

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Abstract

This study examined the impact of online cataloguing systems on cataloguers' productivity in university libraries in Rivers State, Nigeria. The objectives were to determine the uses of online cataloguing systems, identify factors influencing their use, assess their impact on productivity, and examine the constraints affecting their effective utilization. A descriptive survey research design was adopted, while data were collected using a structured online questionnaire administered to cataloguers from the University of Port Harcourt, Ignatius Ajuru University of Education, and Rivers State University. Out of 32 responses received, 28 were found valid for analysis. Data were analyzed using frequency counts and percentages. Findings revealed that online cataloguing systems are mainly used for retrieving already catalogued items, cataloguing library materials, editing bibliographic records, and validating bibliographic details. Key factors influencing their use include availability of computers, computer literacy, cost effectiveness, and quick bibliographic retrieval, while poor internet connectivity and unstable power supply were not considered supportive factors. The study further showed that online cataloguing systems significantly enhance productivity by improving speed, reducing errors, minimizing workload, and facilitating efficient bibliographic management. However, major constraints identified include poor internet connectivity, erratic power supply, and inadequate infrastructure. The study concludes that online cataloguing systems have positively transformed cataloguing practices in academic libraries, despite infrastructural challenges. It recommends improved ICT infrastructure, stable power supply, and continuous staff training to maximize productivity and ensure effective utilization of online cataloguing systems in Nigerian university libraries.

Keywords: online cataloguing system, job productivity, cataloguer, University library

1.1 Introduction

Productivity remains a central concept in both economic theory and organizational practice, broadly defined as the efficiency with which inputs particularly labour are

converted into outputs within a specified timeframe (Organisation for Economic Co-operation and Development [OECD], 2023). While traditionally measured as output per hour worked, productivity also captures the

qualitative ability to create, refine, and deliver valuable goods and services efficiently. In modern organizations, productivity is rarely viewed in isolation; instead, it is evaluated comparatively, often against peer performance or established benchmarks within similar roles. This is because the sustainability and competitiveness of any organization depend largely on how effectively its workforce translates effort into meaningful outcomes (World Bank, 2022; Brynjolfsson & McAfee, 2023).

Within the knowledge ecosystem, libraries are not exempted from these performance expectations. Increasingly, they are repositioning themselves to align with the ideals of High-Performing Organizations (HPOs), which emphasize adaptability, innovation, and consistent service excellence. In an era shaped by rapid technological advancement and global economic pressure, no institution aspires to remain underperforming. For libraries, especially within academic environments, the productivity of cataloguers plays a vital role in determining how quickly and accurately information resources are made accessible to users. In practical terms, cataloguing productivity can be understood as the number of information resources accurately described and organized within a given period. Historically, a cataloguer who processes between 8 and 15 items manually in a day is considered highly productive, given that original cataloguing requires between 30 and 45 minutes per item due to its intellectually demanding nature (Anyafulu & Olatokunbo, 2017; RDA Steering Committee, 2023).

However, cataloguing is far from a routine mechanical task. It involves deep cognitive engagement, particularly in subject analysis, metadata creation, and the assignment of appropriate access points that ensure discoverability. As such, productivity in this domain is often uneven. A cataloguer may devote an entire day to resolving classification

complexities for a single resource or process multiple items with varying levels of difficulty. This variability reflects the inherent tension between speed and accuracy in bibliographic work, where precision cannot be sacrificed for quantity without compromising information retrieval (International Federation of Library Associations and Institutions [IFLA], 2023; Library of Congress, 2024).

Over time, the tools and processes of cataloguing have undergone significant transformation, largely driven by advances in Information and Communication Technologies (ICT). These changes were introduced to improve efficiency and reduce turnaround time; however, they have also reshaped the nature of cataloguing work. Automation, integrated library systems, and shared cataloguing platforms have streamlined workflows, yet they demand new competencies from cataloguers, including digital literacy and systems management skills (Nwokeoma, 2014; Breeding, 2023). Rather than producing a steady rise in productivity, these transitions have sometimes resulted in fluctuations, particularly in developing contexts such as Nigeria, where infrastructural and training challenges persist (Gardner, 2008; Tella & Issa, 2012).

One of the most transformative developments in this regard is online cataloguing. This process involves searching for existing bibliographic records in global databases and adapting them to local needs, thereby minimizing duplication of effort and improving efficiency (Alabi, 2019; OCLC, 2024). Today, the integration of internet technologies has become normal in many libraries. Many library catalogues are web-based and interoperable, allowing seamless access to information across institutions and geographical boundaries. This has significantly reduced the time materials spend in cataloguing units while enhancing user access to resources (IFLA, 2023; OCLC, 2024).

More so, these evolving practices have expanded the role of the cataloguer beyond traditional boundaries. Modern cataloguers are now expected to blend bibliographic expertise with technological proficiency, continuously adapting to emerging tools and standards. While these changes present opportunities for improved productivity and service delivery, they also underscore the need for ongoing professional development to ensure that libraries remain responsive and relevant in a dynamic information landscape.

1.2 Statement of Problem

Cataloguing is the nervous system of any functioning library and therefore provides easy access and retrieval of information resources. This core objective of the library put libraries always at the forefront of providing fast, seamless, and fast access to information resources, placing increased pressure on libraries to move beyond traditional manual cataloguing methods. More so, with the proliferation of the internet, cataloguing practices has taken a new shape by bridging the gap in manual cataloguing system which often hinder quick access and retrieval function, delays the cataloguing process, require many staff, highly prone to inconsistencies that can lead to backlogs and reduced productivity among cataloguers and ultimately weakens the fourth basic law of librarianship “do not waste the time of the user”. To address these challenges, many university libraries, including those in Rivers State, have adopted online cataloguing systems with the aim of improving efficiency, accuracy, and speed. Despite these advancements, the actual impact of online cataloguing on cataloguers' productivity remains unarticulated in literature.

The researchers also observed that Challenges such as inadequate infrastructure and technology, poor technology literacy, poor network, epileptic power supply and limited technical skills of cataloguers may

reduce the expected benefits of the use of online cataloguing system by cataloguers. Therefore, there is need to critically examine whether online cataloguing systems truly enhance productivity or simply introduce new complexities. This study seeks to address this gap by investigating the *impact of online cataloguing systems on cataloguers' productivity in university libraries in Rivers State, Nigeria*.

1.3 Research Questions

The study was guided by the following research questions:

1. How do cataloguers in university libraries in Rivers State utilize online cataloguing systems?
2. What factors influence the use of online cataloguing systems by cataloguers in university libraries in Rivers State?
3. What is the impact of online cataloguing systems on the productivity of cataloguers in university libraries in Rivers State?
4. What challenges are associated with the use of online cataloguing systems in university libraries in Rivers State?

2.1 Literature Review

Cataloguing is a fundamental function of library operations that ensures systematic organization, identification, and retrieval of information resources. According to Aina (2012), cataloguing is a structured yet complex process that provides access tools enabling users to locate and use materials within a library collection. It involves bibliographic description, subject analysis, classification, and the preparation of items for effective shelving and retrieval. These tasks are typically carried out by trained cataloguers who play a critical role in ensuring the discoverability of library resources (IFLA, 2023; Library of Congress, 2024).

Cataloguing is broadly classified into original cataloguing and copy cataloguing. Original cataloguing involves creating a

bibliographic record from scratch without reference to existing records, making it highly time-consuming and intellectually demanding (Ntui& Edem, 2012). In contrast, copy cataloguing involves adapting existing bibliographic records obtained from established databases such as OCLC WorldCat or the Library of Congress catalogue to suit local standards (OCLC, 2024; Svenonius, 2000). This method significantly reduces processing time and improves efficiency, particularly in resource-constrained environments (Breeding, 2023; Tella & Issa, 2012).

Online cataloguing represents a modern evolution of copy cataloguing, where bibliographic records are retrieved from global databases and modified for local use through networked systems (Li, Dobreski & Busch, 2024). This approach enhances efficiency, reduces duplication, and supports standardization across libraries. The integration of online cataloguing systems has also improved interoperability among libraries, enabling seamless sharing of bibliographic data (IFLA, 2023; OCLC, 2024). Studies have shown that the adoption of such systems significantly improves access to information resources and reduces cataloguing turnaround time (Ola, Charles & John, 2023; Breeding, 2023).

The quality of cataloguing directly influences the extent to which library resources are utilized. Modern libraries have increasingly shifted from manual cataloguing systems to automated and integrated library systems due to technological advancement (Coyle & Hillmann, 2007; Calhoun, 2006). These changes have redefined the role of cataloguers, transforming them from manual record creators to information managers working within digital ecosystems (Nwokeoma, 2014; Jansen & Rieh, 2010).

In the Nigerian context, library automation has experienced uneven development. Ajidahun (2006) described

early automation efforts as largely inadequate, with many libraries only partially adopting ICT tools. However, recent studies show gradual improvement, especially in academic libraries where Online Public Access Catalogues (OPACs) are increasingly being deployed (Ojedokun, 2020). Despite these advancements, challenges such as poor infrastructure, insufficient funding, and limited technical expertise continue to hinder full automation (Tella & Issa, 2012; Nwalo, 2003).

The internet has significantly transformed cataloguing practices by enabling cataloguers to access global bibliographic databases, communicate with peers, and share metadata efficiently (Bamise, Oluwaniyi, & Igbeneghu, 2019.; Yaid, (2009). Online collaboration tools and communication platforms have also improved workflow efficiency and strengthened professional networks among cataloguers (Bamise, Oluwaniyi, & Igbeneghu, 2019). Furthermore, internet-based cataloguing supports faster copy cataloguing and authority control, thereby reducing workload and improving consistency (OCLC, 2024; Breeding, 2023).

ICT adoption has also altered staffing structures within cataloguing departments. Alabi (2019) observed that para-professionals are increasingly involved in cataloguing tasks due to the simplification brought about by automation systems. This shift has expanded the human resource base of cataloguing units but also created the need for continuous training and capacity building (IFLA, 2023; Tella & Issa, 2012).

Resource sharing has become another major benefit of ICT-driven cataloguing systems. According to Nwalo (2003), resource sharing reduces duplication of effort and minimizes costs associated with cataloguing and classification. It also enhances access to a wider range of information resources beyond individual library holdings (Ojedokun, 2020). In digital libraries, cataloguing plays a crucial

role in assigning metadata and identification numbers to electronic resources, ensuring effective retrieval and management (Igun, 2012; Borgman, 2015).

Despite these benefits, the use of ICT in cataloguing is not without challenges. Ajidahun (2006) identified issues such as inadequate skills among cataloguers, inconsistent automation practices, unreliable power supply, and the overwhelming number of online catalogues as major constraints. Recent studies further highlight challenges such as cybersecurity risks, system downtime, lack of standardization, and resistance to technological change (Breeding, 2023; IFLA, 2023).

Overall, literature suggests that while online cataloguing systems have significantly improved efficiency, access, and collaboration in libraries, their effectiveness is still influenced by infrastructural, technical, and human factors. The productivity of cataloguers, therefore, depends not only on the availability of digital tools but also on their skills, institutional support, and the stability of ICT infrastructure (Ola, Charles & John, 2023; Tella & Issa, 2012). This study builds on these insights by examining how online cataloguing systems influence cataloguers' productivity in university libraries in Rivers State.

3.1 Methodology

The study adopted a descriptive survey research design, which is appropriate for gathering detailed information on existing conditions without manipulating variables. The target population comprised cataloguers working in three selected university libraries in Rivers State, namely the University of Port Harcourt, Ignatius Ajuru University of Education, and Rivers State University.

Data for the study were collected using a self-constructed online questionnaire developed by the researcher. The instrument was designed to capture relevant information

on the subject matter and was distributed electronically to the respondents. For ease of analysis and clarity of focus, the questionnaire was organized into four thematic clusters aligned with the research objectives. These clusters focused on: the uses of online cataloguing systems by cataloguers; the factors influencing their use of online cataloguing systems; the impact of online cataloguing systems on cataloguers' productivity; and the constraints associated with the use of online cataloguing systems in the selected university libraries.

A total of 32 cataloguers responded to the questionnaire; however, only 28 responses were considered valid and suitable for analysis after screening for completeness and relevance. The data collected were analyzed using simple descriptive statistical tools, specifically frequency counts and percentages, to provide a clear and understandable presentation of the findings.

4.1 Analysis of Data and Discussion

Demographic Characteristics of the Respondents

The study involved a total of 28 cataloguers drawn from three universities in Rivers State. The gender distribution shows that 17 respondents (61%) were male, while 11 respondents (39%) were female, indicating a higher representation of males in the sample.

In terms of years of professional experience, the findings reveal that 10 respondents (36%) had between 1–5 years of experience, 12 respondents (43%) had between 6–10 years of experience, while 6 respondents (21%) had 11 years and above experience in cataloguing and related library duties. This distribution suggests that most of the respondents fall within the mid-level experience category, which may reflect a reasonable balance of both early-career and seasoned cataloguers within the selected institutions.

Question One: What are the uses of online cataloguing system?

Table 1: Uses of Online Cataloguing System

Statement	SA	A	D	SD
To catalogue library materials	4(14%)	13(47%)	11(39%)	-
Edit and modify bibliographic elements	6(22%)	11(39%)	11(39%)	-
Access other catalogues online	9(32%)	8(29%)	5(18%)	6(21%)
Use as a retrieval system to already catalogued items	14(50%)	6(21%)	5(18%)	3(11%)
Use to validates bibliographic details	12(42%)	8(29%)	3(11%)	5(18%)

Table 1 shows the various ways cataloguers utilize online cataloguing systems in university libraries. The findings reveal that most respondents agreed that online catalogues are primarily used as a retrieval system for already catalogued items (71%), indicating that this is the most prominent function among cataloguers.

Similarly, 61% of respondents agreed that online cataloguing systems are used for cataloguing library materials, editing and modifying bibliographic elements, and validating bibliographic details. This suggests that these core cataloguing functions are widely supported by online systems and are central to their daily use by cataloguers.

Furthermore, 51% of respondents indicated that online cataloguing systems are

used to access other catalogues online. Although this percentage is slightly lower compared to other functions, it still reflects that a considerable number of cataloguers rely on online platforms for external bibliographic searches and comparative cataloguing.

The results demonstrates that online cataloguing systems are mainly utilized for retrieval, record creation, editing, and validation of bibliographic data, with additional but comparatively lesser use for accessing external catalogues. This highlights the multifunctional role of online cataloguing systems in supporting cataloguing operations in modern academic libraries.

Research Question Two: What are the factors influencing cataloguers use of online cataloguing system?

Table 2: Factors Influencing Cataloguers Use of Online Cataloguing System

Statement	SA	A	D	SD
Availability of computers	18(64%)	9(32%)	1(4%)	-
Uninterrupted power supply	4(14%)	7(25%)	9(32%)	7(25%)
Strong internet connectivity	4(14%)	6(21%)	9(32%)	9(32%)
Good knowledge of computer	8(29%)	10(36%)	6(21%)	4(14%)
Quick bibliographic retrieval	7(25%)	8(29%)	7(25%)	6(21%)
Cost effectiveness	8(29%)	9(32%)	6(21%)	5(18%)

Table 2 shows that several factors were identified as influencing cataloguers' use of online cataloguing systems in university libraries. A large majority of respondents agreed that the availability of computers (96%) is a major enabling factor. Similarly,

good knowledge of computer use (65%), cost effectiveness (61%), and quick bibliographic retrieval (54%) were also considered important factors that encourage the use of online cataloguing systems.

However, the findings further revealed that

not all proposed variables were viewed as positive influences. A notable proportion of respondents did not agree that strong internet connectivity (64%) and uninterrupted power supply (57%) significantly influence the use of online cataloguing systems. This suggests that, in practice, these infrastructural factors are either inadequate or inconsistently available, thereby limiting their perceived impact on cataloguing activities.

Therefore, the results indicates that while

human capacity and availability of basic ICT tools strongly support the use of online cataloguing systems, infrastructural challenges such as unstable internet and power supply remain major constraints in the effective adoption and utilization of these systems.

Research Question 3: What is the impact of online cataloguing system on cataloguers' productivity?

Table 3: Impact of Online Cataloguing System on Cataloguers' Productivity

Statement	SA	A	D	SD
Speed in cataloguing library materials	10(36%)	14(50%)	4(14%)	-
Edit and modify bibliographic elements	10(36%)	16(57%)	2(7%)	-
Access other catalogues online	8(29%)	8(29%)	7(25%)	5(18%)
Reduce the stress of manual cataloguing	11(39%)	12(43%)	3(11%)	2(7%)
Use to validate bibliographic details	12(43%)	7(25%)	3(11%)	5(18%)
Saves cost in cataloguing	9(32%)	7(25%)	6(21%)	6(21%)
Online cataloguing system increase productivity	18(64%)	5(18%)	5(18%)	-
It reduces errors in cataloguing	13(46%)	12(43%)	3(11%)	
It makes cataloguers independent of other cataloguers	8(29%)	4(14%)	10(36%)	6(21%)
Encourages cataloguers to continue cataloguing activity	12(43%)	12(43%)	4(14%)	

Table 3 presents respondents' views on the impact of online cataloguing systems on cataloguers' productivity in university libraries. The findings indicate a generally strong positive perception of its effects on cataloguing activities.

A very high proportion of respondents agreed that online cataloguing systems improve the editing and modification of bibliographic

elements (93%), making it the most strongly acknowledged impact. Similarly, 89% of respondents agreed that the system reduces errors in cataloguing, highlighting its role in improving accuracy and reliability of bibliographic records.

Other significant impacts identified include increased speed in cataloguing library materials (86%) and encouragement for

cataloguers to continue cataloguing activities (86%). In addition, 82% of respondents agreed that online cataloguing systems increase productivity, while another 82% indicated that they help reduce the stress associated with manual cataloguing processes. These findings suggest that the system contributes significantly to both efficiency and workload reduction.

Furthermore, 68% of respondents agreed that online cataloguing systems are used to validate bibliographic details, while 58% acknowledged their usefulness in accessing other online catalogues. A slightly lower proportion (57%) agreed that the system is cost-effective in cataloguing operations, indicating a moderate perception of its financial benefits.

However, a contrasting view was observed regarding professional independence. Most respondents (57%) disagreed that online cataloguing systems make cataloguers independent of other cataloguers. This suggests that despite automation and access to shared databases, collaboration and reliance on professional networks remain important in cataloguing practice.

In summary, the results demonstrate that online cataloguing systems have a largely positive impact on productivity, particularly in improving speed, accuracy, efficiency, and reducing workload, although they do not necessarily promote full independence among cataloguers.

Research Question 4: What are challenges associated with of online cataloguing system?

Table 4: Challenges associated withof online cataloguing system

Statement	SA	A	D	SD
Poor infrastructure	8(29%)	7(25%)	6(21%)	7(25%)
Poor internet connectivity	8(29%)	14(50%)	6(21%)	-
Inadequate computer skills	5(18%)	4(14%)	11(39%)	8(29%)
Erratic power supply	13(46%)	7(25%)	3(11%)	5(18%)
Cataloguers' poor attitude towards embracing online cataloguing	6(21%)	7(25%)	8(29%)	7(25%)

Table 4 presents respondents' views on the constraints affecting the use of online cataloguing systems in university libraries. The findings indicate that infrastructural challenges remain the most significant barriers to effective adoption and use of the system.

A large majority of respondents identified poor internet connectivity (79%) as a major constraint, highlighting its strong negative impact on the smooth operation of online cataloguing activities. Similarly, erratic power supply (71%) was also widely

acknowledged as a key challenge, suggesting that inconsistent electricity significantly disrupts cataloguing processes and limits system reliability. In addition, 54% of respondents agreed that poor infrastructural facilities contribute to the difficulties experienced in using online cataloguing systems.

On the other hand, some potential constraints were not strongly supported by the respondents. For instance, 68% of respondents disagreed that inadequate computer skills constitute a major challenge, indicating that

most cataloguers possess sufficient ICT competence to operate the system effectively. Likewise, 54% of respondents disagreed that cataloguers' poor attitude toward embracing online cataloguing systems is a constraint, suggesting that resistance to technology adoption is not a major issue among the respondents.

Inclusively, the results show that the major constraints of online cataloguing systems are primarily infrastructural rather than human related. Issues such as unstable internet connectivity, irregular power supply, and inadequate infrastructure significantly hinder the effective use of online cataloguing systems, while factors such as computer skills and attitude appear to be less problematic in the studied libraries.

5.1 Discussion of Findings

The findings of this study provide a clear picture of how online cataloguing systems are being utilized in university libraries in Rivers State, as well as their influence on cataloguers' productivity and the challenges affecting their effective use.

The results on the uses of online cataloguing systems show that cataloguers primarily rely on them for retrieving already catalogued items, cataloguing library materials, editing and modifying bibliographic records, and validating bibliographic details. This aligns with modern cataloguing practices, where integrated library systems are designed to support both original and copy cataloguing functions efficiently. The high usage for retrieval and editing suggests that cataloguers are increasingly dependent on digital systems for day-to-day bibliographic operations, consistent with findings by Breeding (2023) and OCLC (2024), who noted that automation has become central to contemporary cataloguing workflows.

The study also revealed that several factors influence the use of online cataloguing

systems, particularly the availability of computers, computer literacy, cost effectiveness, and quick bibliographic retrieval. This suggests that human capacity and basic ICT infrastructure play a stronger role than environmental factors in determining system use. However, challenges such as poor internet connectivity and erratic power supply were not strongly supported as influencing factors in practice but were instead identified later as major constraints. This indicates a contradiction in the operational environment, where users may recognize infrastructural limitations more as barriers than as motivating factors for use. These findings are consistent with Tella & Issa, (2012) and Nwalo (2003), who emphasized that ICT infrastructure remains a major limitation in Nigerian libraries.

In terms of productivity, the findings show a strong positive impact of online cataloguing systems. Most respondents agreed that these systems improve speed, reduce errors, reduce workload, and enhance overall productivity. This supports earlier studies by Mason (2014) and Tella and Issa (2012), which found that automation improves efficiency and accuracy in library operations. The ability of cataloguers to edit bibliographic records easily, validate information, and reuse existing records reflects a shift from manual, time-consuming processes to more efficient digital workflows.

Interestingly, despite these benefits, the study also revealed that online cataloguing systems do not necessarily make cataloguers independent of others. This suggests that collaboration, consultation, and shared cataloguing practices remain important in bibliographic work. It reflects the continued relevance of professional networks and authority control systems, even in automated environments.

Finally, the constraints identified in the study highlight serious infrastructural challenges. Poor internet connectivity, erratic

power supply, and inadequate infrastructure were the major barriers affecting effective system use. This finding is consistent with Ajidahun (2006) and more recent studies such as Breeding (2023), which emphasize that technological infrastructure remains a critical limitation in many developing-country libraries. Interestingly, issues such as inadequate computer skills and negative attitude toward technology were not considered major constraints, indicating that cataloguers are generally willing and sufficiently skilled to adopt online systems. Conclusively, the findings suggest that while online cataloguing systems have significantly improved cataloguers' productivity in terms of speed, accuracy, and efficiency, their full effectiveness is still constrained by infrastructural deficiencies rather than human factors.

Conclusion

Based on the analysis of data collected for this study, it can be concluded that cataloguers in university libraries in Rivers State are aware of the role and significance of online cataloguing systems in enhancing their job performance. The findings show that these systems are widely used for key cataloguing functions such as retrieving already catalogued items, cataloguing library materials, and editing or modifying bibliographic records. The study also established that the use of online cataloguing systems is largely influenced by factors such as the availability of computers, good computer literacy skills, cost effectiveness, and quick bibliographic retrieval. However, infrastructural elements such as strong internet connectivity and uninterrupted power supply were not consistently recognized as facilitating factors, largely due to their unreliability in practice. In terms of impact, the study revealed that online cataloguing systems significantly enhance cataloguers' productivity by improving speed in

cataloguing, reducing errors, and facilitating easier editing and validation of bibliographic information. These improvements indicate a clear shift towards more efficient and technology-driven cataloguing processes. Despite these benefits, the study also identified major constraints affecting the effective use of online cataloguing systems, particularly poor internet connectivity, irregular power supply, and inadequate infrastructural support. These challenges continue to limit the full potential of digital cataloguing practices in the studied institutions. Lastly, the findings demonstrate that the adoption of online cataloguing systems has positively transformed cataloguing operations and improved productivity among cataloguers in Rivers State. Therefore, it is recommended that further efforts be made to strengthen ICT infrastructure and support continuous system improvement to maximize the benefits of online cataloguing not only in Rivers State but also in other parts of Nigeria.

Recommendations

Based on the findings of this study, the following recommendations are made to enhance the effectiveness of online cataloguing systems and improve cataloguers' productivity in university libraries in Rivers State:

1. **Improvement of ICT Infrastructure:** University management and library administrators should prioritize the provision of reliable ICT infrastructure, including adequate computers, stable internet connectivity, and modern cataloguing software. This will ensure smoother and uninterrupted cataloguing operations.
2. **Stable Power Supply:** Given the critical role of electricity in online cataloguing, institutions should invest in alternative power sources such as solar systems and standby generators to reduce disruptions

caused by erratic power supply.

3. Continuous Training and Capacity Building: Regular training programmes, workshops, and refresher courses should be organized for cataloguers to enhance their ICT skills and ensure they remain up to date with evolving cataloguing standards and technologies.
4. Government and Institutional Support: Government agencies and university authorities should increase funding for library automation projects to support the maintenance and upgrading of online cataloguing systems.
5. System Upgrade and Maintenance: Libraries should ensure regular maintenance and upgrading of their cataloguing systems to improve efficiency, reduce errors, and enhance user experience.
6. Encouragement of Professional Collaboration: Cataloguers should be encouraged to participate in professional networks and collaborative platforms to share knowledge, solve cataloguing challenges, and improve consistency in bibliographic practices.
7. Policy Development for ICT Use in Libraries: Clear institutional policies should be developed to guide the effective use of online cataloguing systems, ensuring standardization and sustainability of digital cataloguing practices.

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