# Impact of Ict on Cataloguing & Classification of Library Materials; Case Study of Some Selected University Libraries in South-West Nigeria

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## Abstract

*Purpose*
*This study investigated the impact of ICT on cataloguing and classification of library materials in ten randomly selected University libraries in Southwestern part of Nigeria*

*Design/ methodology/ approach*
*One hundred and twenty six (126) questionnaires were randomly distributed to library staff working in the cataloguing and classification section within the selected sample space. The data was analyzed using frequency tables and percentages*

*Findings*
*Result from the study revealed that ICT could bring a lasting relief to the stress of manual classification and cataloguing, which is prone to human error, but are not well utilized due to cost, technical know-how and management issues.*

*Practical implication*
*The paper thus recommends the need for adoption of ICT -oriented cataloguing and classification as it has an impact on cataloguing and classification in areas including 'Easy & Increased Accessibility', 'Cost Effectiveness', 'Resource Sharing', 'Resource Availability', 'Reduced duplication of efforts', 'Reliable Storage' and 'Accuracy'.*

*Originality/value*
*This paper provides valuable information on the impact of ICT on cataloguing and classification of library materials in some selected university libraries in south-west Nigeria*

**Key Words:** ICT, Cataloguing, Classification, Library

**Classification:** Research paper

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*Introduction*

Information and Communications Technology is the science and skills of all aspects of computing, data storage, and communications. It is a new, rapidly growing area that is radically changing the world by making possible new ways of doing business, making entertainment, and creating art.

The Information and Communications Technology (ICT) has proven its role in accelerating sustainable development and bridging the ever-growing gap in our present day society.

There is however, a critical need to channel the vast potentials of ICT in the right direction for the betterment of society and effective human development.

ICTs present a revolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost. This has brought down global geographic boundaries faster than ever thought possible. The resulting new interconnected digital world heralds the fluid and seamless flow of information, capital, ideas, people and products (Padmamma S, 2008).

Development of Information and Communications Technology is playing a crucial role in restructuring of libraries. Shift from human dependent operations to machine dependency, mechanization (data processing) to knowledge processing, stand alone system to network computing, local LAN to wireless access protocol systems. Document centered information to user centered information; print media to electronic media, data capture methods, human to machine oriented, library automating to web-enabled services (WAN Access), online information retrieval to CD-ROM Databases to Internet. Nwalo (2006) argued that these prolonged shift in application of innovative IT to library and information profession can be attributed to the changes emanated in the last 2 decades. This study is majorly designed to investigate the impact of ICT on cataloguing and classification of library materials in ten randomly selected University libraries in Southwestern part of Nigeria. This will help to determine the rate of introduction, adoption and widespread of ICT to libraries in the study area.

**Objectives**

The general objective of this study is to determine the level of impact of ICT on cataloguing and classification of library materials. The specific objectives were:

1. To ascertain the rate of adoption and diffusion of ICT to library services especially in cataloguing and classification.
2. To identify the impacts of ICT on cataloguing and classification.
3. To identify the constraints adduced to non-adoption of ICT-oriented cataloguing and classification service.
4. To identify the challenges posed by ICT to cataloguing and classification and possible ways to overcome these challenges.

**Literature Review**

The extent of the use of library resources depends greatly upon the quality of the library catalogue and classification. Most libraries have moved away from manual cataloguing as they have embraced the new technologies. Mohammed (1997) is of the view that information technology is rapidly transforming the content and services of libraries. Mason (2004) observes that libraries are a classic example of how automation has impacted on the traditional ways that work is done, particularly in cataloguing departments—changing how, and by whom, the cataloguing is done. Ajibero (2003) also notes that as a result of the impact of ICT on technical services, the roles of cataloguers have completely changed. Their roles now involve operations that have become integrated. He further asserted that cataloguers have become inter-dependent in their pursuit to provide bibliographic control and access.

Coyle and Hillmann (2007) assert that changes in the context in which libraries function have brought the library and its catalogue to a crisis point. According to them, the development of computer technology and electronic document production presents a significantly different challenge than libraries had only fifty years ago, a time when information resources were rooted in the era of books and periodicals, and the card catalogue was the entry point to the library's physical holdings.

Calhoun (2006) observes that one area where change is essential is in the area of library catalogues and cataloguing. Cataloguing rules used today according to him represent an unbroken continuum that began in the early 19th century. The rules he noted were developed for linear presentation, either in printed book catalogues, or in alphabetically arranged card catalogues, thus the emphasis on "headings", those carefully crafted strings that are designed to be placed in an ordered list ("Precious, Saul" "Precious, Paul"). He further averred that headings in alphabetical order were once the only access points into the catalogue, but as catalogue entries became machine readable records, the rules for cataloguing remained essentially the same. "More recently, library systems developers have worked hard to create a machine readable library catalogue that provides functionality beyond that of analog card catalogue, for instance by allowing keyword searching of all data in the catalogue record. However, the struggle to accommodate technological changes with data created using the old rules is clearly not optimal, and hinders the ability of libraries to create innovative services".

Gorman (1998) says that by the end of the twentieth century, with the explosion of digital formats and the internet, the treatment of non-book formats using the model of book cataloguing will become less useful. According to him, even conventionally published materials began to appear on the market in multiple formats. In addition, he noted that the much looser distribution channel of the internet eliminated the packaging and any vestige of description that those packages contributed. He further posited that the switch from physical media formats distributed through traditional channels to web-distributed digital information pulled the last remaining rug from under cataloguers who were used to relatively stable materials.

## Changes in Cataloguing and Classification

The introduction of computers into cataloguing marked a turning point in the way it is being done and by whom the cataloguing is done. The introduction of non-professionals to cataloguing is one of such changes. Para-professionals in the library can now perform conveniently tasks solely meant for cataloguers. Nwalo (2006) states that paraprofessionals in libraries can now effectively perform much of the duties that hitherto were the exclusive preserve of professionals. The California Occupational Guide (1996) describes how automation has in many cases changed cataloguing of routine materials from being primarily a responsibility of the librarian to a paraprofessional responsibility for employees assigned to the cataloguing department.

Resource-sharing of cataloguing activities is another very notable change being currently experienced in cataloguing. It helps to save cost and reduce to the barest minimum, duplication of efforts in cataloguing. Nwalo (2006) notes that resource-sharing is of immense benefits to libraries and their users as it makes information more readily available, saves costs and prevents duplication of effort especially in cataloguing and classification.

## Digital library – Identification, Cataloguing and Indexing

As books are acquired by the library, the accession number is assigned after all the normal actions like reviewing, ordering and purchasing, It is then sent to classification and cataloguing for identification purpose. In the same manner, for a document that has been acquired in digital format, it is necessary to assign the identification number and to catalogue it. This helps the digital library to manage the digital/electronic resources smoothly and for easy accessibility. Identification provides a unique key for finding the object and linking the object to other related objects; cataloguing helps in the organization.

## Method

A questionnaire designed to address the objectives of the study was administered to ten Universities randomly selected in South West Nigeria. The Universities include Obafemi Awolowo University (OAU), University of Ibadan (UI), Ladoke Akintola University of Technology (LAUTECH), Osun State University, Ajayi Crowther University, BOWEN University, Federal University of Technology, Akure (FUTA), Olabisi Onabanjo University (OOU), University of Lagos (UNILAG) and Lagos State University (LASU). Thirteen library staff were randomly selected from each University. A total of 126 questionnaires were distributed while 100 were retrieved, thus representing a response rate of 79%. The data was analyzed using frequency tables and percentages.

## Results and Discussion

Table 1 demonstrates the level of adoption of ICT-oriented cataloguing and classification service by libraries within the selected sample space. It is revealed that 57% of the libraries in the study area have adopted ICT for cataloguing and classification service while 43% are yet to embrace this new revolution.

A further study was conducted to identify the various impacts of ICT on cataloguing and classification. Table 2 presents seven reasons for the adoption of ICT-oriented cataloguing and classification service obtained through findings carried out in this study.  The reasons include 'Easy & Increased Accessibility', 'Cost Effectiveness', 'Resource Sharing', 'Resource Availability', 'Reduced duplication of efforts', 'Reliable Storage' and 'Accuracy'. In the light of this study, it becomes evident as shown in Table 3 that the impact of ICT follows a trend ranging from Resource sharing, Easy & Increased accessibility, Reliable storage, Accuracy, Resource availability, Reduced duplication of efforts to Cost effectiveness in that order.

Table 4 shows the reasons some libraries do not adopt the ICT-oriented cataloguing and classification service. A survey was carried out on libraries within the sample space that are yet to embrace the ICT-oriented cataloguing and classification service with a view to identifying the reasons. Top reasons include 'fund to implement', technical how-to, cost of maintenance, no suitable working environment and cost of staff training in that order (Table 5).

As regards the challenges facing ICT-Oriented Cataloguing and Classification Service, 'Technicality of Cataloguing & Classification Application', 'Cost of Maintenance', 'System / Application Failure' and 'Inconsistencies due to Electrical Power Failure' have been identified in this study (Table 6). Basically, 'Cost of Maintenance' and 'Inconsistencies due to Electrical Power Failure' are the major challenges facing ICT-Oriented Cataloguing and Classification Service (Table 6).

### Table 1: Level of Adoption of ICT in Cataloguing and Classification

| ICT Adoption | Frequency | % |
|---|---|---|
| Yes | 57 | 57 |
| No | 43 | 43 |
| Total | 100 | 100 |

**Source: Field Survey data**

### Table 2: Reasons for adopting ICT in Cataloguing and Classification

| Reasons for ICT adoption / Response | Easy & Increased accessibility (%) | Cost effectiveness (%) | Reliable storage (%) | Resource Availability (%) | Reduced duplication of efforts (%) | Accuracy (%) | Resource Sharing (%) |
|---|---|---|---|---|---|---|---|
| **Strongly disagree** | 0 | 4 | 0 | 4 | 4 | 2 | 0 |
| **Disagree** | 0 | 6 | 2 | 5 | 5 | 3 | 0 |
| **Undecided** | 6 | 8 | 7 | 6 | 7 | 5 | 5 |
| **Agree** | 21 | 18 | 13 | 23 | 21 | 26 | 21 |
| **Strongly agree** | 73 | 64 | 78 | 62 | 63 | 64 | 74 |
| **Total** | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

**Source: Field Survey data**

### Table 3: Impact of ICT on Cataloguing and Classification

| Impact of ICT on Cataloguing and Classification | % |
|---|---|
| Resource Sharing | **95** |
| Easy & Increased accessibility | **94** |
| Reliable storage | **91** |
| Accuracy | **90** |
| Resource Availability | **85** |
| Reduced duplication of efforts | **84** |
| Cost effectiveness | **82** |

**Source: Field Survey data**

**Table 4: Reasons for not adopting ICT-Oriented Cataloguing and Classification service**

| Reasons for ICT non-adoption<br><br>Response | Technical How-to (%) | Cost of Maintenance (%) | Fund to implement (%) | Cost of staff training (%) | No suitable working environment (%) |
|---|---|---|---|---|---|
| **Strongly disagree** | 2 | 1 | 0 | 3 | 2 |
| **Disagree** | 5 | 7 | 1 | 6 | 4 |
| **Undecided** | 2 | 1 | 3 | 2 | 4 |
| **Agree** | 17 | 19 | 17 | 18 | 22 |
| **Strongly agree** | 74 | 72 | 79 | 71 | 68 |
| **Total** | 100 | 100 | 100 | 100 | 100 |

**Source: Field Survey data**

**Table 5: Reasons for non-adoption of ICT-oriented Cataloguing and Classification service**

| Reasons for non-adoption of ICT for Cataloguing and Classification | % |
|---|---|
| Technical How-to | **91** |
| Cost of Maintenance | **91** |
| Fund to implement | **96** |
| No suitable working environment | **90** |
| Cost of staff training | **89** |

**Source: Field Survey data**

**Table 6: Challenges being faced due to automation**

| Challenges of ICT adoption<br><br>Response | Technicality **of** Cataloguing & Classification Application (%) | Cost of Maintenance (%) | System / Application Failure (%) | Inconsistencies due to Electrical Power Failure (%) |
|---|---|---|---|---|
| **Strongly disagree** | 23 | 3 | 21 | 4 |
| **Disagree** | 38 | 4 | 48 | 10 |
| **Undecided** | 5 | 4 | 9 | 1 |
| **Agree** | 21 | 18 | 12 | 16 |
| **Strongly agree** | 13 | 71 | 10 | 69 |
| **Total** | 100 | 100 | 100 | 100 |

**Source: Field Survey data**

## *Conclusion*

The study revealed that in the study area, 57% of libraries have automated their cataloguing and classification section which indicates a percentage over average. It has also become evident that ICT has an impact on cataloguing and classification in areas including 'Easy & Increased Accessibility', 'Cost Effectiveness', 'Resource Sharing', 'Resource Availability', 'Reduced duplication of efforts', 'Reliable Storage' and 'Accuracy'. Also revealed in the study are the reasons for non-adoption of ICT in classification and cataloguing.

Top reasons include 'fund to implement', technical how-to, cost of maintenance, no suitable working environment and cost of staff training in that order. 'Technicality of Cataloguing & Classification Application', 'Cost of Maintenance', 'System / Application Failure' and 'Inconsistencies due to Electrical Power Failure' has been identified as major challenges facing ICT-oriented Cataloguing and Classification services. Based on the findings in this study, it is recommended that the Government, the stakeholders and the entire public should come to aid the success of digitization and automation of some core library services if not all, including classification and cataloguing, by providing an enabling environment and fund to ensure its adoption and survival. Technical personnel should be recruited so as to ensure a smooth running of the system. Furthermore, it is evident from this study that ICT has made a lot of tremendous impact on cataloguing and classification, sequel to this, it is hereby recommended as a very suitable practice to emulate.

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