

# ICT Skills Perspectives among Academic College Librarians in Maharashtra

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## ABSTRACT

This study explores the perspectives of academic college librarians in Maharashtra regarding ICT (Information and Communication Technology) skills and their role in modern librarianship. As digital transformation reshapes library services, librarians must adapt to new technological demands. The research examines librarians' proficiency in ICT, their training needs, challenges in implementation, and the perceived impact of digital tools on service delivery. The present study was carried out by using a descriptive research design, where the librarians of academic colleges of study region were selected randomly. The data was collected using a reliable and valid questionnaire and the statistical analysis of the collected data was carried out with the help of SPSS 20.0 software. Findings reveal that while many librarians possess foundational ICT skills, there is a significant variation in proficiency levels, particularly in advanced areas such as digital resource management, data analytics, and emerging technologies. Specifically, the study results indicated that most of the librarians working in the academic colleges of Maharashtra have excellent skills in handling operating systems like LINUX/Windows, Ms-Office (Word, Excel, and PowerPoint) operations, and handling cataloguing and metadata.

**Keywords:** ICT skills, academic librarians, digital literacy, library services, Maharashtra, professional development.

## INTRODUCTION

Information communication technology (ICT) enormously affects each field of the society and library and information science is not an exception. ICT has changed the general working of the libraries (Oguche, 2017). To give important information inside limited capacity to focus time it becomes fundamental for libraries to embrace an ICT-based information framework and ICT foundation. In early days when manual library framework was in presence, they dealt with numerous issues because of reliably developing size of information sources and absence of extra infrastructural facility, this has constrained libraries to take on the ICT-based library systems to defeat these troubles (Agava and Underwood, 2020).

Libraries were once just thought of as book storage facilities, and librarians were only thought of as the books' caretakers. However, the recent technology's development has altered the library landscape widely (Husain and Nazim, 2015). The primary driver of the transformation in the field of library and information services is the quick advancement of technology. By replacing conventional information sources with electronic resources, online databases, and online information storage & retrieval, etc., it has revolutionized how services are delivered (Bansode and Viswe, 2017). Currently most of the information in libraries is processed, stored, retrieved, and disseminated via computers. Libraries nowadays are not evaluated based on their quantitative resources (Bansode and Viswe, 2017). Hence, if correctly handled, these substantial improvements may be exploited to quickly and effectively deliver the appropriate information to the appropriate user at the appropriate time.

The integration of ICT in library services—such as digital resource management, institutional repositories, e-learning support, and data analytics—has redefined the role of librarians. They are no longer just custodians of books but also information specialists who must navigate databases, manage open-access resources, and assist users with advanced research tools. In view of the above, librarians are essential to the overall development of not just the academic field but also the whole civilization. The field of libraries and information centers has seen numerous transformations (Ratheeswari, 2018). In the current IT world, the function of the librarian is likewise evolving in all facets of services and source distribution to users. To meet the information demands of users in the ICT era, librarians must be trained with a variety of skills that are used in libraries. Professional efficiency is required of librarians working in academic libraries, especially those at universities, in order to offer users cutting-edge services (Reddy et al., 2020). Likewise, developing technology and professional skills presents several difficulties for library employees. Professionals should possess not only ICT skills but also communication, library, information retrieval, and other skills (Kumar and Nanda, 2019). In the fast-paced information age, managing the library will be relatively simple if the staff is knowledgeable about the most recent techniques. In the backdrop of the above information this study was carried out to assess the status of librarians working in the academic colleges of Maharashtra with respect to their ICT related skills.

## RESEARCH METHODOLOGY

In the present study, a careful collection of facts was undertaken by the researcher to ensure the validity of the facts. The present study was carried out in three steps involving reconnaissance, data collection and analysis, followed by interpretation of statistics. The study was delimited to the jurisdiction of Maharashtra i.e. Academic Colleges situated in Maharashtra were considered. The study was carried out by using a descriptive research design, where the librarians of academic colleges of study region were selected randomly. In this study, data was collected from the librarians working in the academic colleges of Maharashtra. Prior to sampling a reconnaissance survey was carried out and on the basis of this survey, it was observed that the total population i.e. the librarians working in the academic colleges of Maharashtra was approximately 1200. Hence, for this size of population a representative sample selection was done using the sampling model proposed by Krejcie and Morgan (1970). According to this model, the above mentioned population needs 291 samples, which are to be selected randomly. Thus, the sample size for this study was 291; however, while conducting the survey, researcher could get data from more number of respondents and the final sample size for this study was 300. In the present study, all the data generation was done by using standard procedures and with the help of a structured questionnaire (research instrument) and by following survey method. Statistical analysis of the collected data was carried out with the help of SPSS 20.0 software. The significance level was chosen to be 0.05 (or equivalently, 5%).

## RESULTS AND DISCUSSION

### Operating system LINUX /Windows

Table No. 1: Level of ICT skill of the librarian with respect to handling operating system LINUX/Windows

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 166        | 55.3         |
| Average      | 119        | 39.7         |
| Poor         | 15         | 5.0          |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 119.42; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 1** presents information pertaining to level of handling operating system LINUX/Windows by the librarians of the academic college libraries of Maharashtra. It is observed that 55.3% librarians are excellent in handling operating system LINUX/Windows while 39.7% librarians indicated average level of handling skills. Further, 5.0% librarians are poor in handling this operating systems.

## Ms-Office (Word, Excel, PowerPoint)

Table No. 2: Level of ICT skill of the librarian with respect to operating Ms-Office (Word, Excel, and PowerPoint)

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 252        | 84.0         |
| Average      | 38         | 12.7         |
| Poor         | 10         | 3.3          |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 350.48; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 2** presents information pertaining to level of operating system Ms-Office (Word, Excel, PowerPoint) by the librarians of the academic college libraries of Maharashtra. It is observed that 84.0% librarians are excellent in operating Ms-Office (Word, Excel, and PowerPoint) while 12.7% librarians indicated average level of skills. Further, 3.3% librarians are poor in handling this.

## Content Management System (CMS)

Table No. 3: Level of ICT skill of the librarian with respect to operating CMS

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 94         | 31.3         |
| Average      | 119        | 39.7         |
| Poor         | 87         | 29.0         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 5.66; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 3** presents information pertaining to level of handling CMS by the librarians of the academic college libraries of Maharashtra. It is observed that 31.3% librarians are excellent in handling CMS while 39.7% librarians indicated average level of handling. Further, 29.0% librarians are poor in handling CMS.

## Database Management System

Table No. 4: Level of ICT skill of the librarian with respect to operating DBMS

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 89         | 29.7         |
| Average      | 151        | 50.3         |
| Poor         | 60         | 20.0         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 43.22; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 4** presents information pertaining to level of operating system DBMS handling skills of the librarians of the academic college libraries of Maharashtra. It is observed that 29.7% librarians are excellent in

handling operating system DBMS while 50.3% librarians indicated average level of handling skills. Further, 20.0% librarians are poor in handling DBMS.

### Relational Database Management Systems (RDBMS)

Table No. 5: Level of ICT skill of the librarian with respect to operating RDBMS

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 48         | 16.0         |
| Average      | 125        | 41.7         |
| Poor         | 127        | 42.3         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 40.58; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 5** presents information pertaining to level of handling RDBMS by the librarians of the academic college libraries of Maharashtra. 16.0% librarians are excellent in handling operating system RDBMS while 41.7% librarians indicated average level of handling skills. Further, 42.3% librarians are poor in handling this operating systems.

### Cataloguing and metadata

Table No. 6: Level of ICT skill of the librarians with respect to operating cataloguing and metadata

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 182        | 60.7         |
| Average      | 102        | 34.0         |
| Poor         | 16         | 5.3          |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 137.84; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 6** presents information pertaining to level of operating cataloguing and metadata by the library professionals of the academic college libraries of Maharashtra. It is observed that 60.7% librarians are excellent in operating cataloguing and metadata while 34.0% librarians indicated average level of handling this. Further, 5.3% librarians are poor in handling cataloguing and metadata.

### Subject Gateways

Table No. 7: Level of ICT skill of the librarians with respect to operating subject gateways

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 103        | 34.3         |
| Average      | 161        | 53.7         |
| Poor         | 36         | 12.0         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 78.26; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 7** presents information pertaining to level of operating subject gateways by the library professionals of the academic college libraries of Maharashtra. It is observed that 34.3% librarians are excellent in handling subject gateways while 53.7% librarians indicated average level of handling. Further, 12.0% librarians are poor in handling subject gateways.

## E-resources handling

Table No. 8: Level of ICT skills of the librarians with respect to e-resources handling

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 77         | 25.7         |
| Average      | 143        | 47.7         |
| Poor         | 80         | 26.7         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 27.78; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 8** presents information pertaining to level of handling electronic resources by the library professionals of the academic college libraries of Maharashtra. It is observed that 25.7% librarians are excellent in handling electronic resources while 47.7% librarians indicated average level of handling skills. Further, 26.7% librarians are poor in handling this.

## Information Searching Techniques

Table No. 9: Level of ICT skills of the librarians with respect information searching techniques

| Skill level  | Frequency  | Percent      |
|--------------|------------|--------------|
| Excellent    | 209        | 69.6         |
| Average      | 84         | 28.0         |
| Poor         | 7          | 2.4          |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

$$\chi^2 = 207.86; \text{df: } 2; \chi^2_{\text{crit}} = 5.99; p < 0.05$$

Above **Table 9** presents information pertaining to information searching techniques of the library professionals of the academic college libraries of Maharashtra. It is observed that 69.6% librarians are excellent in searching information while 28.0% librarians indicated average level of information searching techniques. Further, 2.4% librarians are poor in searching information.

## CONCLUSIONS

The results of the present study highlight the growing importance of digital competencies in modern library services. Findings reveal that while many librarians possess foundational ICT skills, there is a significant variation in proficiency levels, particularly in advanced areas such as digital resource management, data analytics, and emerging technologies. Specifically, the study results indicated that most of the librarians working in the academic colleges of Maharashtra have excellent skills in handling operating systems like LINUX/Windows, Ms-Office (Word, Excel, and PowerPoint) operations, and handling cataloguing and metadata. Furthermore, it is also evident that most of the librarians possess average level skills in handling CMS, DBMS, handling subject gateways, and handling electronic bulletin board system. In addition to above, most librarians reveal that their skills in handling RDBMSs are poor while most librarians are excellent in information searching. The study underscores the need for continuous professional development programs, hands-on training, and institutional support to enhance librarians' ICT skills. By bridging these gaps, academic libraries in Maharashtra can better meet the evolving demands of users, improve service delivery, and contribute effectively to the digital transformation of education. Strengthening ICT competencies will not only empower librarians but also ensure that academic libraries remain dynamic and relevant in the digital age.

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