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Winter 12-30-2023

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mehmoood, shahid; Samdani, Prof.Dr.Rais Ahmed; and Wahid, Muhammad, "Librarian' understanding, perception, and attitudes regarding cloud computing in academic libraries Punjab, Pakistan: A Survey" (2023). *Library Philosophy and Practice (e-journal)*. 8023.

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Librarian' understanding, perception, and attitudes regarding cloud computing in academic libraries Punjab, Pakistan: A Survey

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***Abstract** - People who used the University of Sargodha library were asked what they thought about Cloud Computing for the study. The goal of this study was to find out more about how people feel about cloud computing in general and how well they understand it. There were both descriptive and quantitative methods used in the study. Over sixty-nine people were asked to take part in the study, and 65 were randomly picked from the census. The study used SPSS version 21 to turn table data with numbers into percentages and rates. Most people know what Cloud Computing is and how it works, according to the study findings. People who work in libraries should encourage people to be open to new technology and try it out. They need to give money to more study, workshops, and conferences that focus on librarian.*

Key Words: Cloud computing, librarian, academic libraries, perspective, attitude.

1. INTRODUCTION

Business, government, and education have adopted cloud-based productivity, collaboration, and storage solutions in the previous decade. They simplify collaboration and save money compared to locally operated solutions. Businesses, IT teams, and regular users benefit from these functionalities, but records managers and archivists face new challenges Pillen & Eckard (2023). ITIL is a popular method for establishing, managing, and improving IT services. ITIL approaches are used to study IT service management and how it influences cloud system development pace. Due to setup and management issues, cloud-based computer services are unreliable. This article reviews studies on how cloud computing has impacted the IT Infrastructure Library.

Basic and exponential scientific development is underway. More imaginative and valuable ideas have come from around the organization. The major purpose of libraries and instructors trying to alter the library business is this. Today, librarians care about maker spaces, digitalization, and cloud library expansion. Technology users debate the advantages and downsides of

computerization, digitalization, maker spaces, cloud computing, and others. When Yuvaras (2015) says "cloud computing," he implies remote machines sending services via the Internet. "Cloud applications" are web-viewable software. Analysts using cloud computing may utilize web-based tools instead of downloading and installing applications. Majhi, Meher, and Maharana (2015) define cloud computing as storing and viewing data and applications online. As said, cloud computing (CC) makes resources accessible to everyone. Many believe that library technology has made it easier for librarians to access massive volumes of data and information online. since many individuals outside the library utilize internet tools. Sudhier and Seena (2018) discuss infrastructure, platform, software, and desktop as a service as cloud computing kinds. IaaS is Infrastructure as a Service. A shared computer environment. Online tools may be designed, tested, published, and maintained on PaaS. "Software as a service," or SaaS, allows software businesses sell and upgrade their products for everyone. Desktop as a service (DaaS) is apparently more difficult than SaaS. This essay should have shown why cloud computing is significant since it helps individuals provide various services online. Supporting platforms via SaaS may need data, computers, databases, software, the Internet, networking, storage, and more. Many individuals don't store anything on their computer for later.

Frankenfield (2019) argues the "cloud" in "cloud computing" is a location remote from the librarian's house where they can acquire information immediately. Huang, Liu, and Liu (2012) claim cloud computing eliminates the necessity for conventional schools. This speeds up teamwork and provides youngsters plenty of knowledge. Ashktorab and Taghizadeh (2012), Agandi, Agandi, and Gull (2013), Pal (2013), Tritt and Kendrick (2014), and Yuvaras (2015) discuss cloud computing difficulties and solutions despite the many research on the topic. Two recent cloud computing research stand out: Swapna and Biradar (2017) and Sudhier and Seena (2018). The Academic Library staff has not been surveyed regarding cloud computing. The survey seeks to determine how generally known cloud computing is, how acquainted academic librarians are with it, how they feel about its usage, how important it is to libraries, and what challenges individuals have using it.

2. REVIEW OF LITERATURE

2.1 Awareness of cloud computing by Academic Librarian

Wang and Zhong (2022).ITIL is a popular method for establishing, managing, and improving IT services.ITIL approaches are used to study IT service management and how it influences cloud

system development pace. Due to setup and management issues, cloud-based computer services are unreliable. This article reviews studies on how cloud computing has impacted the IT Infrastructure Library.

Cloud computing promises to make librarians more productive by integrating and simplifying data storage and processing, but some institutions remain skeptical. Libraries employ cloud services to obtain papers, collect data, and store digital libraries, according to Patel (2014). Help and business. Libraries employ cloud services to obtain papers, collect data, and store digital libraries, according to Patel (2014). Help and business. Cloud software is prevalent in libraries, while less established ones may not have it. Foreign libraries may utilize CC in several ways, according to Seena and Sudhier (2014). Examples include library technology, digital libraries, and online storage. In 2014, Seena and Sudhier examined Kerala University Library lecturers' views on computers and the cloud. Most libraries (42.16%) and respondents (21.5%) did not understand CC technology. Muhammed et al. (2017) discovered that 75% of respondents knew about cloud computing and that libraries promote it. According to Motamedian's 2011 "Cloud Computing Impressions of Consumers" research, 23% of respondents didn't know what cloud computing was but believed it was large enough. Therefore, libraries should utilize their instruments to distribute cloud computing knowledge.

2.2 Academic Librarians View Cloud Computing

What Yakubu and Kassim did (2023) Understanding what makes cloud services simple for libraries is crucial. TOE-DOI theories guided a hybrid study strategy. The designers of this model considered mechanics and the surroundings. The IV-DV relationship was studied directly and indirectly. The research indicates secondary impact ideas work when direct ones don't.

Cloud computing principles vary across libraries. Yuvaras (2015) revealed that most libraries find CC simple to use using the tool Acceptance Model (TAM). Burger (2019) suggests that cloud computing may not be as beneficial as many believe. Many factors contribute to this, including whether libraries have the necessary technical capabilities. As numerous experts have indicated, cloud computing will affect every aspect of the organization. 70% of Muhammad et al. (2017) respondents said the CC was a novel tool beneficial in various fields, not only libraries. Accordingly, Motamedian (2011) reported that 78% of respondents believe cloud computing is always evolving and will never die, while 22% disagree. Good perceptions of technology are

needed for widespread adoption. Many academics and non-academics support CC since it has grown the nation (Phaphoom, Wang, & Abrahamson, 2013).

2.3 Librarians' attitudes regarding cloud computing adoption

Idahosa and Eireyi-Edewede 2023. Librarians educate workers how cloud computing will effect library services, according to statistics. Making and utilizing internet services takes time, energy, and resources at college libraries.

Different librarians see cloud computing differently. Most experts surveyed by Seena and Sudhier (2014) believe cloud computing applications improve library services. Another sign that libraries favor cloud computing. Pal (2013) and Swapna and Biradar (2017) found that libraries are going to the cloud so users may access content anytime, anywhere. The research (Abidi & Abidi, 2012; Tritt & Kendrick, 2014; Swapna & Biradar, 2017) show that cloud computing enables librarians access information from anywhere. Yuvaraj's (2015) research on cloud computing raises questions regarding its suitability for libraries. Even though much material implies otherwise, this illustrates that not everyone loves cloud computing. According to Tritt and Kendrick (2014), some libraries favor hard disks over online storage. This may be due to libraries' computer storage concerns. Yuvaraj (2015) challenged the idea that cloud libraries don't require IT staff since cloud service firms handle everything.

3. Objectives of the Study

- To access the level of knowledge that Academic Librarians has in the field of cloud computing.
- To get insight into the perspectives of academic librarians on cloud computing.
- To know the Attitude towards cloud computing by Academic librarians

4. Methodology

Academic libraries were chosen for this research because they have expertise utilizing ICT for librarian services. Detailed study was performed to determine how local instructors felt about cloud computing. A measurable technique was utilized to assess libraries' CC familiarity and cloud computing attitudes. A questionnaire was given to 65 random census group participants. Using numeric tables and SPSS, percentages and rates were calculated.

5. Data Analysis

Interviewees' gender, education, and employment history were collected. It was necessary to examine these factors since they impact cloud computing perceptions. The response study data are in Tables 1–3.

Table 1: Sex of respondents

Gender	Frequency	Percentage (%)
Male	44	67.69
Female	21	32.31

Table 1 showed that men made up the majority of respondents, accounting for an average of (67.69%), while women made up an average of (32.31%) of the respondents.

Table 2: Responders' level of education

Qualification	Frequency	Percentage%
Master degree	22	33.85
M.Phil degree	35	53.84
PHD	8	12.31

Source: Field data, 2023

Table 2 showed the respondents' educational backgrounds, showing that M.phil (Library and information Science) degrees were most common, followed by first degrees Master and PhD

Table 3: Responses' professional background

Number of years	Frequency	Percentage%
below 5 years	38	58.46
6-15 years	15	23.8
above 16 years	12	18.46

Table 3 shows the working experience of the librarians; 38 (58.46%) have less than five years' experience, 15 (23.08 %) have between six and fifteen years' experience, and nine (18.46%) have more than 16 years' experience.

Table 4: To access the level of knowledge that Academic Librarians has in the field of cloud computing.

S no	Questions	Frequency	Percentage %
1	I am aware of the recent advancement in information	53	81.53

	technology known as cloud computing (CC).		
2	Cloud computing is used to distribute information to libraries effectively.	35	53.84
3	I am aware that cloud computing includes the components IaaS, PaaS, SaaS, and DaaS.	27	41.53
4	A database with remote access is created using cloud computing.	23	35.38
5	Cloud computing makes it simple to access information resources through the network.	41	63.07

Source: Field data, 2023

Table 4 reveals awareness of cloud computing among librarians. Given that 53 (81.53%) of respondents identified themselves as being knowledgeable about cloud computing,

Table 5: To get insight into the perspectives of academic librarians on cloud computing.

S no	Questions	Frequency	Percentage%
1	I believe that cloud computing is highly beneficial for my career.	38	58.46
2	I consider cloud computing to be merely mediocly useful.	12	18.46
3	I consider cloud computing to be a major distraction from my work.	9	13.84
4	I believe that cloud has slowed down my professional progress.	8	12.30
5	CC makes it simple to access information resources through the network.	6	9.23

Source: Field data, 2023

Table 5 reveals that 58.46 % of Librarians believe that CC is highly valuable for their careers, while 18.46 % believe that CC is just slightly useful.

Table 6: Attitude towards cloud computing by Academic librarians

S	Questions	Frequency	Percentage%
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no			
1	Cloud computing is not something I want to undertake at my library.	12	18.46
2	I don't use cloud computing because it's a challenging task.	11	16.92
3	Accepting cloud computing will take me a long time.	5	9.25
4	Each and every library needs to use cloud computing.	32	49.23
5	Cloud computing is not something I want to undertake at my library.	5	9.25

Source: Field data, 2023

According to data in Table 6, librarians believe that CC must be implemented in their libraries (49.23%), followed by (18.46%) who don't want it there, (16.92%) who think it's a difficult undertaking, and (9.25%) who think it will take several years.

Conclusion and Recommendations

The study was conducted to ascertain academic librarians' perceptions, attitudes, and awareness of cloud computing. It was based on existing literature. Members of the research team were selected from a group of academic librarians in Chennai who were the focus of the investigation.

Based on the study's findings, it can be said that academic librarians are familiar with cloud computing and are aware of its advantages. Libraries, universities, and other stakeholders should utilize the use of cloud computing for the purpose of deploying new education systems everywhere and anytime in order to enhance speedy delivery of learning services and facilities. For scholars, this is an intriguing development because no library or librarian in the twenty-first century will ever prosper without fully embracing computerization and new technology. Therefore, this study came to the conclusion that knowledge of and a favorable perception of cloud computing are not

sufficient. In order to achieve this goal, librarians from all nations are recommended to ensure that this relatively new technology

is fully included into their daily operations, especially when providing user support. Without a doubt, this will improve their work's efficacy and efficiency. Another suggestion is for library directors to constantly encourage their staff to adopt new technology and to make an effort to send personnel to training sessions, seminars, and conferences.

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