Open Access Policy for the Academic Institutions of Bangladesh: Designing a Framework

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Abstract of the Study

The purpose of the study is to design a policy for open access resources in Bangladeshi academic institutions. This study focuses on the present state of open access (OA) resources at several Bangladeshi academic institutions. It has also made an effort to investigate how the academic community's approach, use, and are aware of open access (OA) resources.

The objectives of the study were to find out the different aspects of Open Access (OA) resources regarding contribution to collection development and future scopes of open access resources to introduce policies and strategies to encourage the promotion of open access in Bangladesh; to design a policy framework; to survey the scholarly community, librarians, students, funders, publishers and stakeholders to assess the existing status and their suggestions; to introduce an OA resources policy in academic institutions in Bangladesh; to find out the barriers and limitations of policy implementation; and to put forward recommendations and concluding remarks.

The current investigation makes use of a questionnaire, direct interviews, field visits, various documentation methods, and direct observation to sample academic institutions. The questionnaire technique has certain limitations when it comes to gathering data, therefore we used interviews and our observation methods to get the necessary data as a supplement to the questionnaire methods and to make the data easier to comprehend. Since it would be impractical to acquire a significant amount of data from every library for their study, a stratified random sampling approach was used to choose the sample. As a result, we picked 12 academic institutions—six public and six private—according to their founding year. The four sets of surveys were individually delivered to the academic community, students, librarians, publishers, and other stakeholders.

The findings of the study have been presented in nine chapters, with detailed explanations. The researcher believes that more academics and stakeholders should have participated, but that was not feasible owing to several limitations. Academic institutions that have recently been founded were excluded from the research. The SWOT (a study conducted by an organization to determine its internal strengths and weaknesses as well as its external opportunities and threats) analysis of the proposed policy has not been taken into account. Due to budget limitations, the technological components of executing the policy have also been overlooked.

Finally, this study clarifies the structure of an open access policy for academic institutions, how it might operate, and how it would help the scholarly community. The policy should be implemented with the proper rules, enabling academic institutions to improve their current circumstances and prepare for any future challenges. All academic librarians, the scholarly community, funders, publishers, and other stakeholders will find useful guidance to build and implement the OA Policy in this proposed policy, in addition to the guidelines for policymakers at academic institutions. Researchers will discover new possibilities for exploration.

Introduction of the Study

People are becoming more accustomed to using electronic documents thanks to the Internet and other electronic means. Using smartphones, tablets, computers, and other devices, they can easily search for and locate what documents they need online for free. Users (students and researchers) can readily download and utilize it for their research, education, and other needs. However, they occasionally run into issues while using certain resources. The majority of the time, reputable publishers do not make their journal articles available without subscriptions or payment. For new researchers and students, this is a major issue since, in certain cases, it is now relatively impossible to subscribe or pay the fee, preventing them from immediately accessing those important materials. Researchers are always looking for ways to get over these obstacles and readily and freely obtain the materials. The phrase "open access" originated from this idea. Although Open Access (OA) is very popular in the Western world, the concept has only started getting familiar very recently in Bangladesh.

Each academic establishment has a library with a unique collection. Presently, due to the information explosion, huge numbers of publications are being published every day, and it is very difficult for an institution's administration and library professionals to gather every kind of publication with their limited budget. In this case, every academic institution seeks to make sure that open access resources are used to their fullest potential while also establishing OA repositories. However, introducing OA resources into the library is proving to be very difficult for the authority.

A library is an ever-growing structure of any institution where the librarian plays a key role in developing the collection. But usually, because of insufficient budget allocation, librarians always fight to build up enough information resources and collections for both regular and future customers. Open access may be a huge help for librarians in coping with the flow of the

most recent and updated collections to stay up with the rapidly changing information trends. As a result, to enhance their information resources and collection development operations with the aid of open access resources, library professionals in Bangladesh have attempted to adapt to the changing information needs of the country. Public, academic, special, and other types of librarians interested in collection building are becoming more and more active in the open access movement. It is now more crucial than ever to play the roles of selector, assessor, and mediator of high-quality information.

Librarians, who are taking on OA for collection development, have been facing three realities:

1. Users are overwhelmed by the variety of options and informational formats.

2. Libraries are having trouble keeping up with demand owing to budget deficits. (Burpee and Fernandez, 2013)

3. Community involvement is increasing, citizen science is becoming popular, and governments and funding organizations are requiring the adoption of public access rules to research findings.

According to Suber (2013), open access (OA) refers to publications that are digital, online, cost-free, and exempt from the majority of copyright and license restrictions. Since the beginning, librarians have been ardent supporters of open access. "Librarians move for OA requirements. They communicate with their legislators through writing. They speak on the phone and go on visits. They coordinate and network. They interact with one another, their clients, and the general public through communication. They create, manage, and update repositories. They document their observations, case studies, polls, and best practices in writing. They concentrate. They generally comprehend the donors and policymakers." (Poynder, 2011).

Open Access is a mechanism for remote document access that enables everyone to meet their needs without restrictions. For today's academic institutions, the term "Open Access" is quite helpful. Since all of the materials are available to everyone, anybody may visit the website and get the knowledge they need without having to be a student at the university. In Bangladesh, the academic institutions that pioneered the Open Access Institutional Repository (IR) only make available the materials that their teachers, researchers, and students have published. However, neither public nor private academic institutions have an open access policy. The paper aims to demonstrate how open access materials are seen, how they contribute, and their

potential in certain Bangladeshi academic institutions. Finally, the author develops a policy for Bangladesh's academic institutions. To do this, six public and six private academic institutions in Bangladesh that are credited with being pioneers in the use of open access materials in Bangladeshi academic institutions have been used as samples.

Necessity and significance of the study

Academic institutions are essential to the growth and prosperity of a country. The collection development policy of such academic institutions is of crucial concern when it comes to general academic competency and the caliber of research conducted at those institutions. Resources that are open access (OA) are becoming more and more valued and well-liked in research and academia all around the world, although the pace of the OA movement and its advancement are both extremely slow in Bangladesh (Uddin et al., 2014). Numerous articles have been written about open access (OA), open access repository (IR), the OA movement, open access journals, and other OA-related topics, but there has been no research on the degree of knowledge of open access resources among the students and academic community and how it affects the growth of collections at academic institutions in Bangladesh. The research on open access resources, their value, potential, and OA policy model for academic institutions is being conducted for the first time in this effort. The current study's scope and coverage are restricted to gaining an understanding of how academics and students in Bangladesh's academic institutions feel about using open access materials. The motivating variables that lead instructors and students to choose open access (OA) materials and to publish their works on OA platforms are also examined in this research. The study will also concentrate on the function of open access materials in collection development and how they affect collection development in Bangladeshi academic institutions. This study concludes by offering a model for an "Open Access Policy (OAP) for an Academic Institution" and how libraries might promote OA publishing. Given the existing need for such a study, the researcher was motivated to take on this research task. The study on this topic will surely be useful for future open access research in Bangladesh.

Scope of the Study

Academic institutions have long understood the need and benefits of open access materials. However, to create a policy on open access resources in Bangladeshi academic institutions, it is necessary to study how open access resources are used and perceived in selected academic institutions. Priority should be placed on ensuring that educational quality is on par with that

of the developed countries when creating an open access policy for all sorts of academic institutions. Sadly, Bangladesh has not conducted any comparable survey study on creating an open access policy for academic institutions. Out of the many topics that may be researched in connection to developing an open access policy for resources, the current study concentrates on a review of the following issues, which are the most pertinent to the study. Few academic institutions throughout the globe employ open-access policies, although open access is the most well-known and accepted word opposing paywalls. Many scientific groups are denied the advantages of open access because there are no regulations in place to support it. The current effort has been made for that reason and will hopefully significantly advance this field.

Of all the topics that might be looked into in connection to open access resources, the study focuses on a review of the following issues:

- ✓ Usage and perception of Open Access Resources among the scholarly community

- ✓ Collection development through Open Access Resources in academic institutions in Bangladesh

- ✓ Strategies for promoting Open Access Resources in academic institutions of Bangladesh

Open access research has a lot of potential in Bangladesh. To begin with, no one in Bangladesh has carried out this sort of study. Second, the subject is essential for creating a plan for publishers, libraries, and the academic community to use open access materials.

The Objective of the Study

The study's primary objective is to concentrate on the many facets of open access (OA) resources in terms of their contribution to the growth of certain academic institution libraries in Bangladesh and their potential future applications. This research's more specific objectives are:

- To investigate the overall scenario of Open Access resources in selected academic institutions of Bangladesh.

- The level of understanding of Open Access Resources (OAR) amongst students and the scholarly community in academic institutions of Bangladesh.

- To determine the scholarly value of Open access resources.

- To introduce policies and strategies to encourage the promotion of open access in Bangladesh

- To identify the future scope of open access resources.

- To focus on open access resources and their impact on the collection development of libraries.

- To design a policy framework for Open Access resources (OAR) in academic institutions of Bangladesh.

- To suggest a solution for promoting OA resources in academic institutions.

Research Questions

A1. What is the level of understanding of open access resources among the faculty members, students, librarians, and policymakers?

A2. What are their contributions to the collection development of their library?

A3. What are the problems they are facing in using open access resources in their academic institution?

B1. What is the impact of open access resources in collection development?

B2. What is the future scope of open access resources in academic institutions in Bangladesh?

B3. What are the strategies to be applied for encouraging the promotion of open access resources?

C1. What should be the OA policies in academic institutions in Bangladesh?

C2. What should be the OA publishing policies in academic institutions in Bangladesh?

C3. How does the location of deposit support or demand Open Access by including support policies and backdoor requirements?

Methodology of the Study

The most intriguing and promising paradigm for meeting the needs of library users in the era of Information and Communication Technology (ICT) is open access (OA), in all of its varied

manifestations. Therefore, it is essential to gather reliable information about the current situation of OA resource consumption in academic institutions in the era of ICT. A thorough literature search is done by the author of this study using academic journals from various platforms to gain better knowledge and clear thoughts about the perception, contribution, and future horizons of open access materials in academic institutions in Bangladesh. At the end of the dissertation, an extensive bibliography of all the relevant literature (including URLs and printed materials) is provided. General phrase search and Boolean search techniques have been applied.

In this study, the following methodology and techniques have been adopted:

(a) Questionnaire Method:

To gather opinions on how open access resources are currently perceived, what they contribute, and what their potential future uses might be, the researcher used the questionnaire approach and developed a questionnaire that was distributed to library professionals, the scholarly community, students at the Masters and MPhil levels, policymakers, and stakeholders.

b) Personal Interview Method:

To facilitate conversational flow and enable interviewers to elicit comments from participants, structured and open-ended interview questions were employed. The questions included a variety of scholarly communication topics, such as institutional services and initiatives, changing organizational structures, cooperation both inside and outside of institutions, education and training, and future institutional visioning. Candidates for the interviews were chosen based on their level of OA advocacy at their universities as well as their leadership or commitment to academic research. University librarians from the public and private sectors, as well as those with direct responsibility for collection development initiatives, participated in the interview session.

c) Historical Method:

A historical approach was applied to examine global and Bangladeshi open access activities.

d) Observation Method:

The researcher conducted an in-depth analysis of a selected number of Bangladeshi academic institutions. He visited the 12 institutions and personally observed how librarians, faculty members, and students used open access (OA) resources.

After all, the entire study is carried out by following the procedures of the research model:

- Developing and testing questionnaires.

- Gathering data from the sample.

- Conducting interviews with responders.

- Data collection and analysis.

Four separate questionnaires were developed. One was for the scholarly community, one was for MPhil/Masters students, one was for library professionals, and one was for publishers, funders, policymakers, and stakeholders. The surveys tried to identify various aspects of OA policy, which sought to comprehend the necessity of OA policy from the participants. There are around eleven questions in each questionnaire. Between April 25 and June 25, 2020, data was gathered.

Study Design

The study design included qualitative and quantitative approaches. To examine the type of research done on open access resources and developing an open access policy in academic institutions, as well as other relevant sectors, the theoretical literature from diverse sources was reviewed in the first phase. For the quantitative phase, a survey of scholarly communities, students, librarians, and policymakers from a sample of academic institutions was carried out using standardized questionnaires. The present inquiry is shown in Figure 1.1:

Figure 1.1: Conceptual diagram of the study

Sample Design:

This study employs both a qualitative and quantitative methodology. Six public and private universities, totaling 12, were investigated to ensure appropriateness.

Table 1.1: Overall sampling of the study

SL	Types of Academic Institutions	Total Number
1	Government Academic Institutions	6
2	Private Academic Institutions	6
Total		12

(A) Twelve (12) academic institutions including 6 (Six) government academic institutions and 6 (Six) private academic institutions of Bangladesh were consciously selected and investigated.

Reasons for selecting the sample (Academic Institutions):

❑ The academic institutions were chosen after taking their founding year into account.

❑ Collection of the library of the Academic institution

❑ When selecting them as a sample for this study, basic infrastructure amenities, academic institutions from different locations, and yearly research expenditures are also taken into account.

Table 1.2: Government Academic Institutions

SL	Name of the Government Academic Institutions	Establishment year	Location
1.	University of Dhaka (DU)	1921	Dhaka
2.	University of Rajshahi (RU)	1953	Rajshahi
3.	Bangladesh Agricultural University (BAU)	1661	Mymensingh
4.	Bangladesh University of Engineering and Technology. (BUET)	1962	Dhaka
5.	University of Chittagong. (CU)	1966	Chittagong
6.	Jahangirnagar University (JU)	1970	Savar, Dhaka

Table: 1.3: Private Academic Institutions

SL	Name of the Sample Private Academic Institutions	Establishment year	Location
1.	North South University (NSU)	1991	Dhaka
2.	International University of Business Agriculture and Technology (IUBAT)	1991	Dhaka
3.	Independent University of Bangladesh. (IUB)	1993	Dhaka
4.	BRAC University (BRAC U)	2001	Dhaka
5.	Daffodil International University (DIU)	2002	Dhaka
6.	Eastern University (EU)	2003	Dhaka

B) 700 (Seven hundred) students from a variety of faculties, including science, social science, business administration, and the arts, were questioned using structured questionnaires and judgment sampling approaches. Following the number of students in each faculty, the researcher distributed questionnaires. A total of 444 participants sent in their completed, tabulated, and evaluated questionnaires (Questions are included in Appendix-1, 2, and 3). The following items make up the sample:

Reasons for selecting the sample (Students):
❑ Students who have published their work
❑ Frequent library users
❑ Experienced in research
❑ Excellent academic achievements
❑ Conducting a lottery if there are same-category students.

Table: 1.4: Sampling of Students (MPhil/ Masters level students)

SL	A Sampling of Academic Institution's Users				Total Number
1.	Students (MPhil/ Masters students' level)	Male-298	Public	187	444
			Private	111	
		Female-146	Public	88	
			Private	58	
	Total				444

C) To ensure that population parameters were calculated correctly, the samples for this study were carefully selected. The academic institutions were chosen from the University Grants Commission of Bangladesh (UGC) approved list of institutions based on their founding year,

library resources, user base, and high ratings. 600 (six hundred) respondents from the sampled universities' different faculties, including the faculties of science, social science, business administration, and the arts, were surveyed using standardized questionnaires. The surveys, which were filled out and returned by 409 participants, were counted and reviewed. (Appendices 1, 2, 3, and 4 contain questionnaires. The following items make up the sample:

Reasons for selecting the sample (Faculty members):

❑ Most senior professors of every department.

❑ Frequent library users.

❑ Who made use of digital resources

❑ Conducting a lottery if there are more than two senior professors in the department.

Table: 1.5: Sampling of Faculty Members

SL	Sampling of Users				Total Number
1.	Faculty Members	Male-317	Public	211	409
			Private	106	
		Female-92	Public	57	
			Private	35	
Total					409

D) Using judgment sampling techniques, 100 (one hundred) library professionals from the sampled institutions' academic and public institutions were questioned. 68 persons completed and returned questionnaires, which were counted and looked at, yielding a total of 68.

Reasons for selecting sample (Library Professionals):

❑ Most senior library professional

❑ The professional who deals with E-resources and OA resources

❑ Experienced in research

Table: 1.6: Sampling of Library Professionals

SL	Sampling of Users				Total Number
1.	Library Professionals	Male-51	Public	27	68
			Private	24	
		Female-17	Public	12	
			Private	05	
			Total		68

E) Each of the four user groups—funder, policy maker, publisher, and stakeholders—received 25 questions using standard sampling procedures. 93 surveys had been finished, filled out, and returned.

Reasons for selecting the sample (Funders, Policymakers, Publishers, Stakeholders):

❑ Most senior funder
❑ Most experience publisher
❑ Contributor policy maker
❑ Most senior stakeholders

Table: 1.7: Sampling of Funder, Policy Maker, Publisher, and Stakeholders

SL	Sampling of Users			Total Number
1.	Funder, Policy Maker, Publisher and Stakeholders	Funder	15	93
		Policy Maker	21	
		Publisher	31	
		Stakeholders	26	
			Total	93

Overall reasons for selecting the sample:

The study's samples were chosen to ensure an accurate assessment of population parameters.

a) Regarding Institutions: Academic institutions from various locations, basic infrastructural facilities, and satisfactory ranking in academic programs are also considered in taking them as a sample for this study.

b) Regarding Users: Students (MPhil/ Masters students' level), faculty members, library professionals, and policymakers from the sample academic institutions who involve with libraries and academic programs either frequently or on an ad-hoc basis were selected.

Data collection:

The survey information from certain public and private academic institutions in Bangladesh was a crucial part of the study's data collection. Researchers from these academic institutions were also interviewed to determine how well they understood, used, and felt about open access (OA) resources. A wide range of academic journals, as well as online resources including Google, blogs, and Google Scholar, were used in this study.

Data processing and analysis:

Two sets of the study's questionnaires were appropriately modified to guarantee that the data reported therein had been filled out carefully and accurately. Each questionnaire was appropriately coded after being adjusted for machine input. When inputting data, the following steps are taken:

✓ Putting information into the computer; executing validation tests to make sure data has been entered into the computer correctly and finally preparation of output table.

✓ Data entry, editing, and analysis have been performed using MS Office Excel 2010 and SPSS statistical software (20th edition). Bivariate and multivariate analyses, depending on their applicability, were used to show the study's findings in various tables and figures.

Interpretation of results

Following data processing and analysis, each table and figure was given a physical interpretation that corresponded to the numerical results in the real world. In 20 Tables and 28 Figures, the study's results are displayed.

Implementation

Three stages were taken to carry out the study:

Step–I: Reviewing all relevant literature that is available and creating a reading list and bibliography for background research;

Step–II: Designing and testing questionnaires, creating samples, gathering and analyzing data, and presenting; and

Step–III: Identifying the issues and making recommendations.

In addition to the aforementioned, several more methods and tactics have been employed to find pertinent material and guarantee the success of the investigation. These include, among other things, reading through credible publications, going on research excursions, performing different content evaluations, personally consulting with senior subject-matter experts, and visiting websites and digital archives.

Organization of the Text

The following nine chapters, including the preliminaries and appendices, comprise the dissertation's material and are arranged logically in order of importance.

Chapter 1:   The backdrop of the study, definition, justification, goals, scope, significance, the technique used in the investigation and structure are all covered in Chapter 1.

Chapter 2:   This chapter reviews the relevant literature in a worldwide and national context that is mostly related to difficulties with open access resources and open access policy.

Chapter 3:   Present scenario of usage of OA resources in Academic Institutions of Bangladesh.

Chapter 4:   The level of understanding of Open Access Resources amongst students and the scholarly community in academic institutions of Bangladesh.

Chapter 5:   Strategies for Encouraging the Promotion of open access in Bangladesh

Chapter 6:   Open Access Policy for Academic Institutions of Bangladesh: A Proposed Model

Chapter 7:   Strategies for Implementing Open Access Policy in Academic Institutions in Bangladesh

Chapter 8:   Findings of the Study

Chapter 9:   Recommendations and Conclusion

The study concludes with some suggestions, limitations of the study, and future implications.

Review of literatures:

It is necessary to go through all published materials in a literature review to locate any references to the subject of interest. This covers publications including books, magazines, newspapers, websites, webpages, collections, articles, and pamphlets. After analyzing earlier pertinent research, books, dissertations, and journal articles, the researcher found various publications on open access, open access repository (IR), the OA movement, the OA journals, and other related features of OA. Open access is becoming more and more popular all around

the world. The topic has garnered a lot of interest as it relates to open access materials and their effect on collection creation initiatives.

A Study on Open Access Resources: National Context

According to a review of the international context literature on the subject, open access (OA) stimulates greater information sharing, lowers access barriers, and gives researchers more alternatives for disseminating their work and establishing a strong reputation. By allowing rapid and unrestricted access to the most recent research, OA encourages innovation and creates a more equitable knowledge system for everyone. Because of this, open access is becoming more and more popular in the developed, underdeveloped, and developing worlds. Numerous studies carried out by eminent librarians and information specialists worldwide have shown this to be the case. Below are quick summaries of the relevant literature:

Library collection through open access resources

The world of information has already experienced a significant change in the Internet era, with open access journals and archives already playing a significant role in intellectual communication. More change should be expected as we continue to examine all of the new media's potential. Instead of focusing on a single object, future libraries may feature complete collections of digital texts, files, data, and links. The librarians demonstrate the significant role that open access plays in strengthening collections because they are the leaders in scholarly communication efforts at their respective institutions. By assisting OA projects, libraries are now actively managing the transition to OA (Lewis, 2013).

There are several research on various facets of collection growth and the implications of open access. The reasons for the inclusion of electronic resources in collection development are discussed by Thornton (2000). McGuigan (2008), on the other hand, focuses on the traditional collection growth method used by academic libraries and their transition to using digital information sources. The results of two surveys that were undertaken concurrently in 2008 as part of a broader initiative to examine the implications and effects of open access to scientific discoveries in the United Kingdom were summarised by Creaser (2010). It was discovered that the availability of reliable scholarly information on open access platforms had a favourable effect on the amount of money certain universities spent on journal subscriptions. Although the effect did not result in a reduction in total spending, it did encourage them to redirect it. Okello-Obura (2010) investigated information-seeking behaviour and outlined the challenges Makerere University, Uganda, LIS postgraduate students faced while trying to acquire online resources.

The respondents had a positive outlook on using electronic resources. Some of the problems mentioned include slow Internet connection, a shortage of linked computers, the inability to utilise the library's inexpensive photocopiers, the use of sophisticated search techniques in most databases, and a general lack of understanding of most e-resources. While Nwosu and Udo-Anyanwu (2015) examined the performance of the collection development approach at five university libraries in Imo State, Nigeria to pinpoint potential operational issues and offer fixes, Mullen (2011) focused on the effects of using open access in academic libraries' collection development. After more than a decade of library advocacy for open access, he said that it was time to turn our attention to the practical side and move towards the adoption of specific initiatives that are likely to produce real and advantageous consequences. They will benefit from having a better understanding of the kinds of contributions that front-line librarians may make. The growing popularity of e-journals can be attributed to information science students' increased familiarity with online resources and services. Information science students at Jimma University in Ethiopia were the subject of research by Natarajan (2017) to determine how, when, and where they use electronic resources. They are accessing these resources more frequently in dorms and departments than at the library since they are so accessible at many locations throughout campus. To be eligible for research evaluation, the UK Higher Education Funding Council proposed in 2013 that all peer-reviewed journal articles, regardless of whether they are published in a subscription-based journal or a Gold OA journal, be deposited in the author's institutional repository as soon as they are accepted for publication. (Harnad, 2015)

User Perception on OA Resources

Open Access (OA) resources are being used by teachers and students more often. Research on open access resources has been extensively conducted in universities all around the world. Numerous researchers examined how knowledgeable, capable, and perceptive users were of open-access materials. According to Lwoga's (2013) assessment of faculty knowledge, attitudes, and utilisation of open scholastic communications in Tanzanian health science institutions, senior faculty members with more proficient technical abilities used OA resources more frequently than younger faculty members. ICT infrastructure, a lack of knowledge, journal author remuneration schemes, copyright constraints, and problems with plagiarism are the main obstacles to OA acceptance, according to this study. Stanton and Liew (2011) investigated the knowledge of and attitudes towards open access materials among doctoral candidates. The results showed that most students preferred open access materials. This showed that there is still a problem with OA knowledge and practises. However, this issue may be

resolved by examining the efficacy of various communication strategies for OA resource assistance. According to Kaba and Said (2014), 91% of faculty members understood and had a positive opinion on open access resources. They frequently used open access resources in their research, learning, and classes. They found that faculty members who are female are more likely than faculty members who are male to use OA resources. Kusekwa and Mushowani (2013) looked at the state of open access (OA) projects in Zimbabwean universities. They discussed initiatives taken by institutions in Zimbabwe to promote open access and other digital open access collections through repositories.

Gaines (2015) published the results of a study that was conducted among professors from a variety of academic fields to examine their attitudes, perceptions, and knowledge about open access publishing and related topics. According to his results, faculty members were dubious about the value and trustworthiness of open access publications and were especially concerned about their usage in the hiring and promotion process. Professors who were surveyed tend to have negative perceptions about open access mostly due to misunderstanding, a lack of willingness, and fear. Iton and Iton (2016) looked at the opinions, familiarity, and use of open access among professors of science at The University of the West Indies. The results showed that this group had significant knowledge gaps on open access as a publication method and little interaction with it. Sheikh (2019) found that although the majority of academic members in Pakistan (71.5%) were aware of scholarly open access before the survey, they had very little understanding of the resources and initiatives linked to open access. Instead of publishing their research articles, Pakistani academicians used open access sites more frequently to study scholarly literature. To find out how 116 LIS professionals from different university libraries in Odisha felt about the open access system and what factors they took into account when selecting open access journals for publishing, Majhi, Baral, and Maharana (2018) surveyed these experts. The results of the survey demonstrated that most participants were aware of open access publications and had thought of them as Scholarly Literature. The majority of authors, however, disagreed with having to pay Article Processing Charges (APC) for their research publications to appear in open access journals.

Policy as a prerequisite for ensuring OAR usage

In 2003, the University of Southampton School of Electronics and Computer Science implemented the first Green OA self-archiving mandate in history. In the US, EU, Canada, Australia, and other countries, funding organisations and institutions have required Green OA self-archiving since 2004. Over 600 Green OA mandates had been implemented by the middle

of 2015, with universities adopting 5 out of the 6 requirements that funders adopted. In the US, OA is required by the National Institutes of Health, 33 funding organisations, Harvard, MIT, and 119 other universities and research organisations. The situation at the University of Kansas (KU) before the implementation of an open access policy was detailed by Emmett et al. (2011), as well as the organisations set up and given responsibility for developing and disseminating the policy among faculty. The article also took into account the concerns voiced by KU professors, as well as how the library and organisations involved in policy promotion responded to these concerns. Similarly to this, Smith (2012) talked about the circumstances at Duke University before its open access policy was approved in 2010 and the actions done to ensure its acceptance. In developing a workflow, most institutions follow a similar process, according to Duranceau and Kriegsman's (2013) examination of multiple university libraries as "early adopters" of open access policy. Their analysis indicates that libraries now acquire the bulk of academic papers. Only when a published work or post-print cannot be obtained elsewhere are faculty members commonly contacted. The infrastructure needed for collecting and internally managing publications is something libraries can purchase or construct. Many institutions use Scopus, Web of Science, or equivalent tools to find faculty papers. Others use Symplectic Elements, a for-profit information management system that collects citations from several websites and academic databases or is considering doing so. They also investigated the OA policy procedures' personnel. Most libraries "repurpose existing employees" to concentrate on OA policy implementation.

The UK Higher Education Funding Council proposed in 2013 to require that all peer-reviewed journal articles, whether they are published in a subscription-based journal or a Gold OA journal, be deposited in the author's institutional repository as soon as they are accepted for publication to be eligible for research evaluation. According to Harnad (2015), the implementation of open access rules by academic institutions, funding organisations, and publishers led to certain advancements in scientific publication. However, a sizable portion of scientific articles continues to be hidden behind paywalls, necessitating the funding of both journal subscriptions and gold OA author publication expenses by institutions. To hasten the development, more organisations and donors must accept stricter OA mandates: All academic institutions and shareholders should demand the following: (1) organisational deposit; (2) immediate OA; (3) immediate rights retention; (4) limit embargo length; (5) incorporate the copy-request Button; (6) offer rich usage and citation metrics; and (8) designate repository deposit of publications as the location for infrastructural performance evaluation as well as

funding applications and renewals. The open-access mandates and practises of government agencies, research organisations, and higher education institutions are subjected to critical analysis in a paper by Rao (2018). In India, there are now 236 active open access journals that are listed in DOAJ as of 2018. Additionally, 79 open access repositories in India are run by academic and scientific organisations. The National Knowledge Commission (NKC), Open Access India, ShodhGanga: Reservoir of Indian Theses, Indian Institute of Technology, Hyderabad, and other organisations are among the 16 Indian institutions and organisations that have enrolled in ROARMAP and are required to publish their academic outputs on OA. To provide a single mandate for the research publications of the Indian academic community in open access, the article suggests that UGC and AICTE step forward.

Need for promotion for open access resources

Open Access (OA) is a relatively new idea that has been greatly affected by developments in information and communication technologies (ICTs). The development of ICTs led to a sharp rise in journals, and other educational materials, and the simple accessibility of research findings to a larger audience. Suha and Arya (2013) looked into the trends and growth of open access efforts in India. By posing some straightforward questions on open access, they attempted to gauge the level of understanding among scientists, researchers, and scholars. They discovered that 41% of researchers stated they knew "nothing at all" and 33% said they knew "little" about open access publications. Finally, they constructed a comparison of the contributions contributed to open access publication by various topic areas. Grobowsky (2015) investigated if and how the addition of OA resources has affected collection development and/or access control procedures in academic libraries. In a setting where users and resources were dispersed across different regions, he also covered the Open Access (OA) and Institutional Repositories (IR) projects for worldwide access, repository, preservation, and organised administration of networked information services. University libraries may actively collaborate with journals to facilitate open access to research, according to Ward and Joanie (2016). They gave an outline of a joint strategic initiative by the Érudit Consortium (Érudit) and the Canadian Research Knowledge Network (CRKN) to promote the transition of Canadian francophone scholarly publications to open access. Sing (2016) found that higher education and research institutions are increasingly following trends towards the creation of OARs. The intellectual product of the institutions, which may be a research organisation or university, is disseminated through them, according to his argument, to the communities and the general public. OAR systems are often utilised at many universities.

Gohain and Yadav (2016) centred their analysis on an overview of open access journals published in India. They also talked about the state of open access today, including initiatives made by different institutions and organisations, open access journals, and open access repositories. The required open access publication rules adopted by many Indian academic, research, and funding organisations are highlighted in their study. Sasikala et al. (2014) looked into trends in collection development activities in college and university libraries in Andhra Pradesh, India, within the context of the Indian subcontinent. They also briefly discussed the impact of electronic publication on the growth of library collections, in contrast to Bulock et al. (2015) who conducted a 25-question survey to learn about librarians' experiences with managing open access resources and the advantages and disadvantages of management systems. Issues raised by respondents included hybrid open access, strange metadata, and unequal engagement during the development of serials. Mullen (2011) stated that there is an opportunity to encourage open access publications, databases, monographs, and electronic theses. The way the movement is expanding and transforming collection development practises is influenced by geographic dispersion, the current political environment, and educational realities. Because they are in charge of academic communication initiatives at their institutions, the librarians serve as excellent examples of the major contribution that open access makes to enhance collections.

User attitude and practice towards Open Access resources

Open access has recently received a lot of attention in this era of information. Some people think that open access might be a solution to the growing price of serials and a way for government funding agencies to achieve a better return on their investment. Numerous academics from throughout the world looked examined consumer understanding, usability, and attitudes towards open-access content. Fullard (2007) conducted a poll of academics, researchers, publishers, and government officials in South Africa to learn about their perceptions of open access materials as well as their difficulties and engagement. The study found that faculty members showed minimal interest in contributing to open access papers. Dulle (2010) investigated open access academic correspondence among Tanzanian university professors in comparison. This survey's results showed that 72% of faculty members were familiar with open access resources. Additionally, this survey found that faculty members' attitudes towards OA were largely positive. On the other hand, teachers and other faculty members identified a lack of a permanent platform, a lack of online publishing skills, and apathy towards technology as the biggest obstacles to utilising OA services. To understand

more about university engineering professors' OA practises and viewpoints, Mischo and Schlembach (2011) surveyed them. Engineering professors' scholarly communication demands and activities are more varied than those of other researchers because they have access to a wider and more varied body of literature, which includes scholarly articles, conference proceedings, technical reports, benchmarks, handbook information, copyrights, and grey literature. The survey's results revealed reluctance to self-archive in the university's institutional repository as well as doubts about the author-pays model. Using Qualtrics, Yang and Li (2015) found that tenure-track teachers are more open to new initiatives like Open Textbooks, but tenured academics at their institution are more active and interested in OA publishing issues generally.

Educators who choose not to engage in Cronin's (2017) examination of open educational practises among those who use and don't utilise OER (Open Educational Resources) gave as reasons a lack of confidence in the pedagogical advantages of open practises and a reluctance to add to their workloads. Therefore, completely open education may or may not become the norm over time. The goal of Thompson and Muir's (2019) study was to investigate the reasons that led to the support of two university libraries in Scotland that provided OER services and to assess their potential to do so in the future. The study's findings showed that while university libraries could be able to offer support services, institutional culture and policy would need to support and promote OER with adequate financing for the libraries to be able to do more. External factors could also be needed to give higher education institutions the financial and reputational incentives they need to adopt open educational resources (OER) and open practises, such include OER in assessments of teaching effectiveness.

A Study on Open Access Resources: National Context

A survey of the literature reveals that academic institutions in Bangladesh that have implemented or intend to implement an open access policy have not been in-depth examined. However, this is not specific to Bangladesh; there is a dearth of research on open access legislation anywhere around the globe.

A study of the state of open access initiatives intended to improve research and information distribution was provided by Islam and Akter (2013). To improve the current situation, they made some recommendations to the different institutional authorities. The future of open access initiatives in Bangladesh was also covered in their research, including plans for many more open access publications and online archives. On the other hand, Uddin et al. (2014) went

through the advantages of open access to research communities, crucial ICTs in Bangladesh, institutional repository activities in Bangladesh, and OA initiatives in Bangladesh. Elahi and Islam (2018) pointed out the paucity of institutional repositories (IR) and the delayed development of open access repositories. They looked at the general state of OA repositories and emphasised how crucial it is for the general public to be aware of OA repositories for them to survive and grow. Hossaini (2017) tried to illustrate the situation of the electronic resources at North South University and Dhaka University libraries. His research highlighted the benefits of utilising e-resources, as well as the difficulties users have when gaining access to them and the impact e-resources have on users of university libraries. Although the phrase "open access" has been used often by academics throughout the world for more than 50 years, it is a fairly new and nebulous notion in Bangladesh. To lessen the strain that journal subscription costs were placing on library budgets, such a movement was started in Bangladesh. By making their health publication (publication of Diarrheal Diseases Research) accessible to the public, icddr,b launches the first OA effort in Bangladesh in 1997 (Uddin et al., 2014). Elahi, Begum, and Munshi (2021) evaluated the state of open access repositories in Bangladesh and India using a predetermined set of standards. The results revealed that 108 Bangladeshi repositories in total have registered with OpenDOAR. Das (2019) made numerous recommendations for enhancing Bangladesh's IR and open mobility. He looked at current open access publishing trends in light of Bangladesh's open access journals and repositories and found that the country's higher education and research institutions are progressively leaning towards the creation of open access repositories. Thanks to BanglaJOL, about 97% of Bangladeshi journals are published online for free. A study of faculty members at the University of Dhaka found that 21% of them exclusively choose open access journals for their scholarly and research requirements. According to Shuva and Taisir (2016), 50% of faculty members are unaware of predatory open access articles and the author-pay OA publishing model.

Collection development through open access resources in Bangladesh

The extent of student and academic community understanding of open access resources and its effects on collection development in academic institution libraries in Bangladesh has not been studied, even though there is a wealth of literature on the subject from many perspectives. In Bangladesh, the concepts of open access use and its function in collection development are still relatively new. The OA journey started with a few selective libraries in Bangladesh after 2000. To learn more about the current status of open access (OA), its resources, individual contributions, and prospective future orientations, it is required to review research publications.

Open access institutional repositories' survival is reliant on a variety of issues, including challenges with copyright, institutions, motivation, finances, maintenance, technology, and future expansion.

Islam, Bhattacharya, and Tonmoy (2022) analysed the state of open access (OA) resources at six private and public institutions in Bangladesh as well as students' comprehension, use, and attitudes towards OA resources. It was difficult for information officers and librarians to subscribe to and keep track of all the information sources that were accessible. It was interesting to see that none of the institutions conducted needs assessments before using OA resources. A 2018 investigation on the topic found that Bangladesh had only 12 open access repositories. Institutional repositories, which make up the bulk of the kind, make up ten of the twelve repositories. In terms of collections, only three repositories—the ICDDR, B Digital Repository, the BRAC University Institutional Repository, and the Knowledge Repository, ICDDR, B—have collections with more than 5000 records. Journal articles, theses, and dissertations make up 23% of the content types in these repositories. The remaining elements include conferences and workshops (11%), unpublished reports and working papers (20%), and unpublished reports. The bulk of OARs in Bangladesh used a multidisciplinary subject approach, accounting for 26% of the total repositories. Islam, Islam, and Sorkar (2017) also looked at the open access rules for institutional repositories in a few particular Bangladeshi libraries. Additionally, they recommended a sustainable repository layout for libraries in developing countries.

User Perception of Open Access Resources

No studies have been done on the evaluation and utilisation of open access materials by academic staff at Bangladesh's top institutions, except for the University of Dhaka. A handful of the studies mentioned different aspects of open access, but they do not particularly address faculty members at public or private institutions' opinions or their use of open access resources in Bangladesh. Faculty members' understanding, attitudes, and use of University of Dhaka open access publications were examined by Shuva and Tasir (2016). They also looked into the variables that affect academics' choices to publish in open access journals. The understanding, use, and attitudes of students towards open access materials in Bangladesh's public and private institutions are examined by Islam et al. (2022). They observed that 60% of students think their schools have adequate open access materials, whereas 40% think they don't. Only 50% of them use OA resources often, 30% are aware of them but have never used them, and the other 20% are not familiar with them. Sultan and Rafiq (2021) analyzed the perceived level of Open

Access (OA) consciousness as well as its difficulties and promise. The lack of additional resources (people, time, and energy), mistrust in OA content, and a lack of suitable infrastructure and tools were all major issues. Free access, enhanced library value, and satisfying users' requirements on a limited budget were the top three prospects mentioned. Mahmud et al. (2020), who conducted a study at four Rajshahi University research centers, looked at staff and student attitudes and awareness of open access resources. Both staff and student impressions of open access resources (OARs) were favorable, according to researchers who employed a mixed-method approach to assess their awareness of and attitudes towards OARs. However, professors understood the fundamental OA ideas better than students did. OARs' availability for free and digital nature was mentioned as motivating factors for their utilization.

Summary of the Findings

Since the OA movement started, there has only been a limited amount of progress made in terms of popularizing it despite numerous attempts by academic institutions and OA advocacy groups. The current Ph.D. research makes recommendations for logical changes that would be compatible with our socioeconomic situation while also setting a set of standards for usage, perception, limitation, and prospect of open access resources in academic institutions in Bangladesh. The chapters make it clear that Bangladesh's academic institutions have been suffering from a lack of adequate and systematic initiative on the part of both private and state academic institutions. The study's questionnaires were successful in obtaining important data regarding the state of academic institutions. One of the study's key conclusions was that academic institutions in Bangladesh should create an OA policy and focus more on research in order to speed up the OA movement. However, as the preceding chapter demonstrates, Bangladesh's academic institutions have been managed and organized differently from those in other countries. Lack of proper infrastructure, trained labor, current technology, collaboration among libraries, marketing and communication efforts, user education, etc. have caused academic institutions to struggle.

An overview of the findings is offered in this chapter:

Findings: Chapter 1

The idea of open access is gaining popularity in this era of publicly accessible knowledge. The history and purpose of the study are covered in Chapter 1. The chapter first defined open access accurately before discussing the current challenges that libraries are experiencing.

Additionally, the chapter discusses the necessity, importance, and range of the study and establishes some important goals and research questions that the study aims to answer. The chapter then discusses the researcher's approach, including the instruments used for data processing and analysis, the methods for choosing samples, the steps involved in putting the study into practice, and a structured list of all nine chapters.

Findings: Chapter 2

To identify any references to the topic of interest, a literature review must search through all published resources. The literature on open access resources is reviewed in Chapter 2 from both a national and international perspective. The chapter looks at user perception, attitude, and behavior regarding open access as well as the growth of library collections using open access resources from an international viewpoint. This chapter also covers the importance of publishing and promoting open access materials as well as the significance of a policy to guarantee OAR usage.

The academic institutions in Bangladesh that have implemented or intend to implement an open access policy have not been thoroughly explored, according to a review of the literature. The chapter also discusses user perception and collection building using open access resources from a national viewpoint.

Findings: Chapter 3

The current state of OAR usage in Bangladeshi universities, both private and public, is covered in Chapter 3. There is a mention of the number of reading materials at six notable public and private institutions. The study discovered that when it comes to collection development, both public and private university libraries undervalue open access content. This chapter also offers a number of suggestions for the creation and incorporation of open access materials across the collection.

Findings: Chapter 4

The degree of understanding of open access resources among students and faculty members in Bangladeshi academic institutions is covered in Chapter 4. The chapter discusses the number and gender distribution of both student and faculty participants after briefly defining open access. The chapter discusses how the participants felt about the open access (OA) resources available in their libraries, the kinds of OA resources they used, how satisfied they were with the resources, and any issues they had while accessing the services. The goal of this study is to

determine how much the academic community in Bangladesh's university libraries understands open access. To that end, the chapter provides several suggestions for boosting OAR users' engagement.

Findings: Chapter 5

The results of certain important questions addressed to the respondents are shown in Chapter 5 together with a sampling of all the participants in this study. This chapter's figures highlight the obstacles to open access policy, the reasons users don't know about open access resources, the reasons libraries don't keep OARs, and the issues users experience. The chapter also suggests a few strategies for encouraging open access in academic institutions in Bangladesh. This chapter also discusses various obstacles to promoting open access materials as well as some concluding remarks.

Findings: Chapter 6

The focal point of the entire study is in Chapter 6. The chapter first discusses the existing issues, the research methodology, and the potential for an open access policy. Then it lists several obstacles to the promotion of OARs and suggests approaches to overcome them. The chapter continues with a proposal for an open access (OA) policy for Bangladeshi academic institutions, along with some likely barriers to policy implementation and a solution, which is the creation of a policy authority or committee. The chapter concludes with a few more suggestions and closing remarks.

Findings: Chapter 7

In order to ensure the easy implementation of the suggested OA policy, Chapter 7 provides a sample plan with a few desired features. The establishment of the goals is the first phase and realization of the visions is the last of a hypothetical 12-month life cycle for the OA policy. Also covered in depth in this chapter is how the OA policy will be implemented.

OA should be viewed as a movement to educate faculty members about their rights when they produce a journal article. Funding to cover OA fees is an important way to get faculty members on board. An implementation plan should be established even before the policy is passed. The library should be flexible in helping faculty understand, comply with the policy, and keep the submission process simple. Publicity of the collection should be done to make it available any way possible.

Recommendations

Based on the review of existing literature, discussion with the stakeholders, key administrators of the academic institutions, observation through field visits, and analysis of the survey data, the researcher would like to put forward the following recommendations for ensuring the successful implementation of the model plan and thus establishing the academic institutions as the hub of excellence for open access environment in data, education, and research:

1. Putting together a policy for open access is a big job. Physical and logical infrastructure must be in place for the process to go smoothly. The open access policy should be reflected in the institution's internal policies and in the technology they use. The open access collections should have computers and monitors so users can search using them. The right tools, skilled workers, and administrative help should be available to the users.

2. The distinctions between the regulations of various libraries need to be removed. The government should ensure that laws and regulations are modern and up-to-date to promote open access among libraries and research organizations.

3. Open access should be part of the academic curriculum in higher education so that students can learn about it from the beginning. Faculty members, researchers, and library staff should be trained on open access. There should be enough open access resources for the students, researchers, and faculty members. The library staff should help them find and use open access resources. This practice will make open access more popular.

4. Librarians constantly face the difficulty of maintaining current resources with a limited amount of space. OARs, which are mostly digital, can be of great use in this case. If the infrastructure, policies, and practices can be changed to include open access resources, the whole organization will benefit for a long time. Policymakers, library professionals, and stakeholders should all understand the benefits of open access.

5. A model plan needs adequate finance, monitoring, and assessment to be implemented successfully. Every year, the authority should create a thorough and well-thought-out development strategy to simultaneously promote the policy to other organizations. An adequate budget that makes sense and is in the proper quantity should be available for IT purchases, building and maintaining databases, training and development, recruiting

qualified personnel, and other related expenses. In such a scenario, UGC may lead the way by providing yearly funding to libraries.

6. National policy should incorporate professional open access specialists like the UGC, the Information Council, and the Library Commission, notably the Education Commission. There should be several directories for libraries and information institutions, and a national accreditation commission should be established to monitor their operations.

7. Academic institutions should establish information literacy programs on open access resources and policies as a tool for user education and awareness.

8. OA resources should be used following guidelines, and OA policy should be implemented using a plan. The academic institutions' highest governing body will have the authority to issue resolutions.

9. Advocacy groups for OA policies should be developed in collaboration with academic institutions' personnel, publishers, students, librarians, trustees, stakeholders, and other interested parties. They will be the lobbyists who inform users about open access resources and policies while negotiating with the management, publisher, academic community, and to some extent with government policymakers to achieve the desired outcomes.

10. Different national and international organizations that are working on open access materials and open access policies should step forward to spread awareness of these topics among the general public. The academic community, publishers, and library staff, can plan recurring training sessions. They might serve as the OA supporters' main national support center. By planning seminars and symposiums, they can advocate for the emerging issues surrounding OA resources and OA policy. In this regard, Open Access Bangladesh, the Open Access Consortium Sparc, LAB, and BALID can play a significant role in spreading awareness of open access resources and policies among Bangladesh's academic institutions.

11. For academic communities to follow embargo dates, determine which version can be made open access, and other things, the library authorities should negotiate with publishers to allow articles to be openly preserved in institutional repositories. They will be able to easily access publications that are behind paywalls in this scenario.

12. Academic institutions in Bangladesh should offer various open access initiative models and the scholarly community should be encouraged to use them for all facets of academic education. An inventory of the initiatives should be included in the Open DOAR.

13. The advocacy and other initiatives should be designed to promote open access resources. The use of OAR for current awareness services has to be introduced. Requests for reference and information resources, collecting and storage of OAR on a local server in academic institutions, and easy access to OAR via the library website should be ensured.

14. It is imperative that librarians take the lead in promoting the use of open access journals and open archives for teaching, learning, and research. Consequently, a program of awareness should be established in the academic libraries for both the scholarly communities and the library staff.

15. Events for resource sharing and networking have to be arranged more frequently. The government should promote data communication support for network establishment at local, regional, national, and international levels. To achieve this, all obstacles that prevent the widespread use of OA resources should be removed. All users ought to adhere to the same standard.

16. The technological divide between urban and rural communities needs to be closed. The country's tiny cities and sub-cities should be introduced to modern technology for using OAR. To increase user awareness, multiple campaigning efforts should be undertaken.

17. Universities implementing an Open Access policy have resulted in wider dissemination of publicly funded research. The best way to meet these standards is to have an institutional repository.

18. An open access institutional repository must house the institution's research corpus and gray literature. Every piece of information must be accurately categorized based on the author's identity, the names of any co-writers who have contributed, the type of content, pertinent keywords, the department, and other considerations. Any visitor will then be able to find what they're searching for easily.

19. It should be encouraged to form a national consortium for sharing open access resources. A consortium may be established between public and private academic

institutions or in cooperation with the libraries of these institutions. The consortium will also preserve the foreign collaborators' OA resources in addition to local ones.

20. Digital resources should be maintained, and publisher and author authorization for copyright use should be requested. The author or publisher must first provide their permission before digitizing any further physical copies.

21. For the best usage of OAR, digital institutional repositories should be used in place of traditional ones. It should include both internally produced materials like thesis, reports, research, and term papers as well as externally produced academic works with preservation rights. Along with repositories, CD-ROM databases, digital photo galleries, and archives of priceless ancient materials need to be created and preserved.

22. Public relations and marketing efforts for open access resources should be stepped up. Dissemination of Open Access resources should use a variety of contemporary social communications systems. Communication using social media is an effective way to raise knowledge and consciousness among stakeholders. Marketing should be encouraged using notice boards, email, web notice boards, automatic email alerts, mobile text messages, telephone, and mailing lists, and social media sites such as Facebook, Twitter, Google Buzz, MySpace, Reddit, Google Bookmarks, and others. The plan is for anyone who wants to share something to simply bookmark it and post it across other channels.

23. The university act/amendments should incorporate the open access mandate. The Act will set standards for many departments' operations, roles, and operational processes. The terms and conditions of OAR, as well as the selection criteria, will then be decided.

24. There will be unforeseen obstacles to the suggested model policy for academic institutions in Bangladesh, and those should be removed. The research's conclusions suggest that the library needs an open access policy. Lack of faith in the policy's implementation is the main obstacle. It could be taken into account when establishing an OA policy.

Limitations of the Study

There are many potentials for conducting research in Bangladesh, but there are also many challenges that stand in the way of doing so. During its execution, the current study on planning for designing a policy on open access resources for academic institutions in Bangladesh

encountered numerous anticipated and unanticipated obstacles. The researcher discovered numerous issues with using open access resources throughout the survey, field visits, and discussions with professionals. Academic institutions in Bangladesh lack an open access policy and publication model, which must be addressed as soon as feasible. The proposed model design should have included everything, but due to several constraints, this was not possible. The following list outlines the study's limitations:

➢ The qualifier "academic institutions alone" helped to focus the investigation. In Bangladesh, there are 109 private academic institutions and 53 higher public academic institutions. The researcher used just 12 academic institutions for his study (6 Public and 6 private). The study sample did not include any of Bangladesh's other academic institutions.

➢ The proposed model's cost-benefit analysis has not been taken into account. Due to budget limitations, the technological parts of the model's implementation have also been overlooked.

Future scope research

Designing a policy on open Access resources is a broad area of study, particularly for Bangladeshi academic institutions. Many topics were not included in this study because it only included public and private academic institutions. The open access concept should be used in Bangladeshi academic institutions to guarantee the quality of research and scholarly publications. Academic institutions should implement a successful and contemporary open access strategy. To keep up with the developed world's pace, an ongoing procedure must be used to update the open access policy. Authorities in power within the government and academic institutions need to be more aware of this. To improve open access practices in data, education, and research in academic institutions, ongoing research should be conducted across the nation.

Based on the results of this study, the following areas are suggested for future research:

➢ The open access policy in Bangladesh: an evaluation of university libraries;

➢ Open access policy practice in university libraries of Bangladesh: A study of some selected private and public universities;

➢ Problems and prospects of using open access resources in Bangladesh;

- Open access resources- Myth and Reality: Bangladesh perspective;

- The problems in implementing an open access policy in Bangladesh;

- A Study on staff attitude towards Open Access Resources: Bangladesh Perspectives;

- A Study on user attitude towards Open Access Resources in Bangladeshi academic institutions;

- Impact on research by using OA resources in Bangladesh Academic institutions.

Conclusion

There is a great deal of demand for researchers to publish their work in the current national and international research environments. Academic institutions and librarians, on the other hand, are concerned about gathering materials for the need of scholarly communities. Alongside the growing use of open access, the problem of dubious open access practices has emerged. Academic libraries and librarians are presented with opportunities as well as difficulties. To take advantage of shifts in scholarly communication, like open access, researchers and library professionals need to acquire the necessary skills for locating and choosing the best OA resources for their needs. Researchers, students, and library staff can be guided by an OA policy to make the greatest use of OA resources and OA publications in academic institutions. Publishers and policymakers can also obtain guidelines for open access publishing. Academic institutions should establish their own OA policy in this case.

The present study was conducted to propose a suitable policy for accelerating the usage and contribution of OA resources in collection development in academic institutions of Bangladesh. Efforts have been made throughout the research to determine the level of understanding, perception, problems, and strategies to promote OA resources in the academic institutions of Bangladesh. A comparative analysis has been conducted to get a clear picture of the differences in problems between public and private academic institutions in Bangladesh except for a few aspects. Based on the summary of the findings, a model policy has been proposed and guidelines have been provided for its implementation. The researcher believes that this research will help to accelerate OA practices in both public and private academic institutions in Bangladesh. Scholarly communities, librarians, publishers, stakeholders, and policymakers will find a significant avenue of learning through this study. The researcher thinks this research will introduce a new era in the field of OA resources and publishing.

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