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The Constraints and Prospects of Integrating ICT in Bangladesh's Madrasa Education: Data and Explanations from Dhakil-level

Shumshunnahar[1], Arifa Rahman Ruma[2], Ruhul Amin[3*]
Comilla University, Bangladesh[1]
Bangladesh Open University, Bangladesh[2]
Comilla University, Bangladesh[3]
Corresponding Email: rubelcou@gmail.com*

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Abstract

This research examines the challenges and opportunities of incorporating Information and Communication Technology (ICT) into Dhakil-level Madrasa teaching in Bangladesh. Despite the government's attempts to modernize education, ICT adoption in Madrasas remains much lower than in mainstream schools, with just 25% incorporating ICT into their curricula, compared to more than 70% in secondary schools. The study takes a mixed-methods approach, combining quantitative surveys and qualitative interviews to evaluate the present level of ICT infrastructure, teacher readiness, and cultural attitudes toward ICT integration in Madrasas. The findings show that poor infrastructure, particularly in rural regions, and a lack of educated instructors are essential hurdles to effective ICT adoption. Cultural and ideological resistance within the Madrasa community hinders efforts to integrate new technology, with some stakeholders concerned that ICT may undermine traditional Islamic instruction. However, the report also highlights significant opportunities for ICT integration, such as government measures to improve teacher training and revise curriculum to incorporate ICT components. The study indicates that, while there are significant problems, ICT can potentially improve religious and secular education. To ensure effective ICT integration, focused expenditures in infrastructure, teacher training, and culturally relevant curriculum creation are required. These efforts can help bridge the digital gap and provide Madrasa students with the skills they need to succeed in today's technology-driven environment.

Keywords: Madrasa, Education, Expenditure, Constrains, Prospect, Bangladesh

Introduction

Information and communication technology (ICT) integration into educational institutions has been generally acknowledged as a catalyst for increasing the quality of education, promoting student involvement, and getting students ready for the needs of the

modern workforce (Abdalla, A. et al., 2004). With several projects aiming at digitizing classrooms and incorporating technology into the curriculum across elementary and secondary schools, the government of Bangladesh has made significant efforts to advance ICT in education (ADB, 2008). ICT's acceptance in Bangladesh's Madrasa education system remains restricted and difficult, especially at the Dhakil level. Given Madrasas' significant importance in educating a sizable section of the nation's population—especially in rural areas—this imbalance is alarming (Dewey. J, 2017).

Deeply ingrained in Islamic instruction, Madrasa education in Bangladesh works alongside the regular educational system. Although most schools have embraced ICT, Madrasas have been slower in including technology in their courses. Many elements may be blamed for this gap, including poor infrastructure, lack of qualified workers, and opposition to change due to cultural and religious conservatism (Ansari. S, 2019). Students at Madrasas may miss out on the advantages of ICT-enhanced learning, including access to a more excellent choice of educational resources, higher literacy in digital skills, and more possibilities for future employment.

The Bangladesh Bureau of Educational Information and Statistics reports that whereas over 70% of mainstream secondary schools have ICT in their classrooms, fewer than 25% of Dhakil-level Madrasas have done so. This disparity highlights the digital barrier separating religious institutions from mainstream education, therefore supporting or aggravating educational inequality and impeding the general growth of Madrasas' pupils (Islam, M. S. 2012). There are several challenges in incorporating ICT into Madrasa education. Significant obstacles include infrastructure, such as the absence of internet access and energy in remote regions (Kusakabe, T. 2019). Furthermore, there is a shortage of qualified educators competent in applying ICT technologies in secular and religious courses. With a significant emphasis on traditional religious instruction and minimal space for new topics like ICT. The current curriculum in Madrasas is sometimes strict. Integrating ICT also faces cultural and ideological opposition; some stakeholders worry that technology might lessen the religious core of Madrasa education (Mahbub, S et al., 2023).

Notwithstanding these obstacles, there are also great opportunities for introducing ICT into Madrasa curriculum. The government of Bangladesh has integrated ICT integration into its more extensive plan for educational reform as it understands the importance of modernizing Madrasa education (Manzar, S. & Zaidi, A. 2013). Steps in the correct way include giving Madrasa instructors ICT training, incentives for Madrasas to embrace technology, and curriculum revisions with ICT components. Furthermore, the possibility of ICT to improve religious education using digital tools such as online religious texts and instructional software offers a means to match conventional education with contemporary technical developments (Marasigan, 2019).

Still, these opportunities can stay unmet without addressing the fundamental limitations. Not only is the integration of ICT in Dhakil-level Madrasa education a question of policy execution, but it also calls for a thorough strategy considering the socio-cultural environment, solves infrastructural problems, and encourages a readiness among stakeholders to welcome transformation. This study intends to investigate these limitations and

opportunities, in particular, offering data-driven explanations and suggestions to enable the efficient integration of ICT in Bangladesh's Madrasa education system.

Literature Review

Globally, the incorporation of Information and Communication Technology (ICT) in education has been acknowledged as a critical factor in the improvement of educational quality, the cultivation of student engagement, and the provision of learners with the requisite skills for the digital economy (Mehdy, M. 2003)). Bangladesh's government has implemented various initiatives to advance ICT in education, resulting in substantial improvements in mainstream institutions. Over 70% of secondary institutions in Bangladesh have incorporated ICT into their curricula, as per the Bangladesh Bureau of Educational Information and Statistics. Nevertheless, the Madrasa education system has not reflected this progress, particularly at the Dhakil level, where less than 25% of institutions have implemented ICT (Niaz Raiyan. R, 2017).

This discrepancy raises substantial concerns regarding the digital divide and educational equity. Madrasas are essential in educating millions of pupils in Bangladesh, particularly in rural and marginalized areas (Nikhat and Zebunnisa, 2020).). The potential perpetuation of cycles of poverty and marginalization is a consequence of the absence of ICT integration in these institutions, which restricts students' access to modern educational resources, digital literacy, and future employment opportunities. Furthermore, the obstacles to the integration of ICT in Madrasas are multifaceted, including cultural resistance to change, insufficient teacher training, and inadequate infrastructure (Ogbomo, E. F. 2011). These obstacles must be resolved to guarantee that students in Madrasa education are not disenfranchised from the digital era. The potential for ICT to improve both religious and secular education and government initiatives to modernize these institutions are promising opportunities for integrating ICT in Madrasas (Rahman, M. M. 2020).

This investigation is essential in examining these constraints and opportunities, as it offers data-driven insights that can be used to inform policy and practice. This research endeavors to advance a more inclusive and equitable educational environment in Bangladesh by comprehending the distinctive obstacles encountered by Dhakil-level Madrasas and selecting viable solutions.

Research Method

Research objective

General Objective:

To investigate the restrictions and possibilities of incorporating information and communication technology (ICT) into Dhakil level Madrasa education in Bangladesh to find difficulties and potential for improving students' educational results and digital literacy.

Specific Objectives:

a. To find out how well ICT is used in Dhakil-level madrasas and compare it to secondary schools in the real world, where over 70% of students use ICT.

b. To find the main technical, educational, and cultural problems that make it hard for Dhakil-level Madrasas to adopt ICT.

c. We must look into how adding ICT to Madrasas might help improve religious and non-religious education, aligning with government efforts to promote ICT in education.

This research employed a mixed-method approach, utilizing various instrumental techniques for data collection. A checklist, questionnaire, classroom observation, and survey were deployed to acquire primary data. The study gathered data from 10 Madrasas in Bangladesh to ensure the effectiveness and feasibility of the research. The participants in the study encompassed the Madrasa superintendent/principal, assistant teachers who also served as ICT instructors, and students, thereby facilitating the collection of both qualitative and quantitative data. The analysis of the data involved the application of a combination of methods.

Research Design:

The study will use a mixed-methods design, combining quantitative surveys and qualitative interviews to provide a comprehensive analysis. This approach allows for the collection of both numerical data and in-depth insights, facilitating a richer understanding of the challenges and opportunities associated with ICT integration in Madrasas (Islam, M. S., & Islam, M. R. 2016).

Population and Sampling:

While conducting the research, Madrasa from Cumilla district was considered. The target population is comprised of Dhakil-level madrasas in Bangladesh. A stratified random sampling approach will choose 100 Madrasas, assuring representation from urban, semi-urban, and rural regions. This enables the inclusion of a wide range of opinions and experiences with ICT adoption. The details of the study's sample and sampling methods have been summarized in Table 1.

Table 1: Name of the Madrasa and interviewees' gender

S. N	Name of the Madrasa	Male	Female	Total
1	B S Rahmania Dakhil Madrasha	13	7	20
2	Abaspur Islamia Dakhil Madrasha	12	8	20
3	Abeda Noor Fazil Madrasha	10	10	20
4	Al-Hedayah Islamia Mohila Madrasha	11	9	20
5	Babar Kandi Darus Sunnat Dakhil Madrasah	10	10	20
	Total	**50**	**50**	**100**

Tools of the Study

The researcher employed a custom-designed questionnaire to assess Madrasa teachers' difficulty utilizing Information and Communication Technology (ICT) for instructional purposes in the classroom. The objective was to gather insights into teachers' primary challenges when integrating ICT into their teaching and learning processes.

Data collection procedure

Quantitative Data Collection: A systematic questionnaire survey was used to gather quantitative data on existing levels of ICT integration, infrastructure availability (e.g., computers, internet), and teacher preparedness. Rehman, A. (2021) states that only 25% of Dhakil-level Madrasas now include ICT in their curricula, emphasizing the necessity for up-to-date and thorough data.

Qualitative Data Collection: Semi-structured interviews were undertaken with around 100 stakeholders, including Madrasa principals, instructors, students, and policymakers. These interviews will examine perspectives, problems, and attitudes regarding ICT integration in Madrasas (Santosa, S., & Jazuli, M. F. 2022).

Data Analysis

Statistical software (e.g., SPSS) was employed to analyze quantitative data to produce descriptive statistics and identify trends. Thematic analysis was used to analyze qualitative data to distinguish the primary themes associated with the integration of ICT (Salehi, H., & Salehi, Z. 2012).

Result and Discussion

Historical Background of Madrasah Education in Bangladesh

Madrasah education has a long and illustrious history that dates back to the time of the Prophet Hazrat Muhammad (SM) when the Holy Quran was revealed. Zebrail (Am) delivered the first word of Allah to Prophet Hazrat Muhammad (SM), "Ekra Bisme Rabbi kallagi Khalaq" (read in the name of Almighty Allah). Given his illiteracy, the Prophet confessed his inability to read, urging Zebrail to educate him. This marked the beginning of Islamic education, mainly passed down orally and lacking institutionalization. Prophet Hazrat Muhammad (SM) was entrusted with the responsibility of spreading the word of Islam to humanity, motivating him to develop an educational philosophy known as Madrasah education, which intended to create competent and moral persons. Our noble Prophet continued to provide education in line with the principles of the Holy Quran during his tenure in Mecca and Medina (Ansari, S. 2019)).

Origins and Evolution:

Bangladesh's madrasa education system has a long history that dates back to the Middle Ages when Muslim lords in the Bengal area codified Islamic instruction (Islam, M. S. 2012). Madrasas, originally primarily devoted to religious studies, later became hubs for studying

theology, law, and Arabic, mirroring South Asia's more considerable Islamic educational legacy.

Colonial Period and Reforms:

Bengali madrasas had substantial modifications during the British colonial era. To bring Madrasa education into line with the larger educational aims of the colonial administration, the British incorporated secular courses into the curriculum (Mehdy, M. 2003). The presence of two separate streams resulted from traditional Islamic academics' resistance to this integration: the Qawmi Madrasas, which followed a purely religious curriculum, and the Aliyah Madrasas, which incorporated secular courses.

Post-Independence Developments:

The government of Bangladesh continued to encourage Madrasa education after the country gained independence in 1971 by giving state money and official recognition to Aliyah Madrasas in particular (Niaz Raiyan, R. 2017). To control and standardize the curriculum and guarantee that pupils got both general education and religious instruction, the Madrasa Education Board was founded. This dual focus aimed to provide students the tools they needed to be leaders in their religion and contribute to society at large.

Growth and Expansion:

In Bangladesh, the number of madrasas has increased dramatically throughout the years. In 2022, the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) reported more than 14,000 officially recognized Aliyah Madrasas, with over 3 million students (Rahman, M. M. 2020). The continued need for religious education is shown in this increase, especially in rural places where access to traditional education may be restricted.

Current Structure:

There are two primary streams within Bangladesh's madrasa education system: Aliyah and Qawmi. Government-regulated curricula, including both religious and secular topics, are followed by the Aliyah Madrasas, resulting in credentials that are acknowledged as being on par with mainstream education levels (Rehman, A. 2021). Qawmi Madrasas, on the other hand, are autonomous, solely dedicated to Islamic study, and not subject to government control or financing.

Challenges in Modernization:

There are still several obstacles to the government's plans to integrate secular topics into Aliyah Madrasas to modernize them. The successful implementation of these reforms has been hampered by opposition from conservative academics, poor infrastructure, and a shortage of qualified instructors (Salehi, H., & Salehi, Z. 2012). Furthermore, Qawmi Madrasas has mainly opposed modernization initiatives, continuing to teach a curriculum that is not aligned with the country's educational framework.

ICT Integration Efforts:

Government policy has recently strongly emphasized using information and communication technology (ICT) in Madrasa education. However, compared to 70% of mainstream schools, only 25% of madrasas, especially those in Dhakil, have integrated ICT into their curricula. This indicates that the use of ICT in madrasas is still restricted (Ahmed, S. 2018). This delay demonstrates the continuous difficulties in closing the digital gap in the Madrasa educational system.

Future Prospects:

In Bangladesh, madrasa education must balance tradition and modernity to survive. The necessity of providing Madrasa students with digital literacy and other contemporary skills to improve their employment and social integration is becoming increasingly apparent (Asadullah & Chaudhury, 2016). Government actions to support curriculum reform and ICT integration are crucial to achieving this balance, but ongoing efforts and cooperation with Madrasa stakeholders are also necessary.

Findings and Analysis

Using ICT to help with teaching and learning is a complicated process that can run into many problems. It is these problems that we call "challenges." Ansari, S. (2019) said a challenge is "anything that makes it hard to make progress or reach an objective." When teachers use ICT in the classroom, they have to deal with several problems, such as:

Teachers' Familiarity with ICT

Table 2 presents three specific questions that were asked to test how good the teachers were at using ICT. When asked how comfortable they were with ICT on a personal level, most respondents (70%) said they were regular or skilled users of ICT. Self-evaluation like this shows that teachers are pretty good with technology, but it doesn't mean they will use technology in their lessons.

Table 2: Teachers' Familiarity with ICT

Items	Variables	Percent
What has been your personal experience with various forms of ICT?	Never Used	7
	Limited User	23
	Frequent User	46
	Confident User	24
How do you evaluate your use of information and communication technology (ICT) in the classroom?	Never Used	34
	Limited User	43

	Frequent User	16
	Confident User	7
What is your opinion of other instructors' ICT proficiency?	Never Used	37
	Limited User	46
	Frequent User	10
	Confident User	7

Only a tiny percentage of those who answered (23.3%) said they were not very good at using ICT, and only two teachers said they had never used it. When teachers were asked to rate how much they use ICT in the classroom, most (76.6%) said they don't use it at all or only sometimes. Table 1 shows that many teachers (83.2%) think their coworkers don't know much about ICT or don't use it very much. Only about sixteen percent (16.6%) of the teachers polled thought they were regular or skilled ICT users. The answers teachers gave in the first part of this section, where they were asked about their experience with ICT, don't match up with these results.

Fear of Technology

Teachers worry about what they don't know about new tools. They are scared to try out new tools. They also don't want to use technology because they think they must simultaneously learn it. Another reason they don't like the idea is because they feel a technology teacher should know everything.

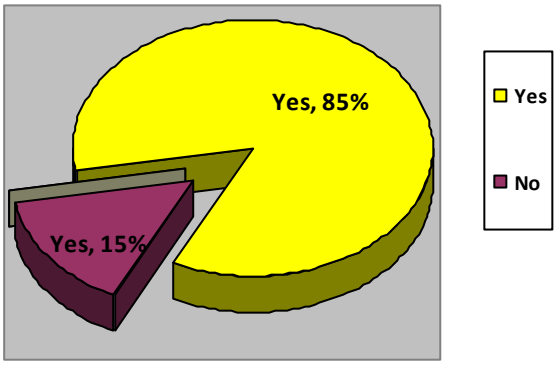

Figure 1: Scenario of Fearness of Technology

Figure 1 shows that most respondents (85%) spoke about their fears regarding technology. Fear about technology pushes them backward to learn new technology. Another 15% of respondents argued that they don't fear technological uses.

The diagram (Figure 2) revealed why the maximum number of respondents (85%) argued about the fairness of technology:

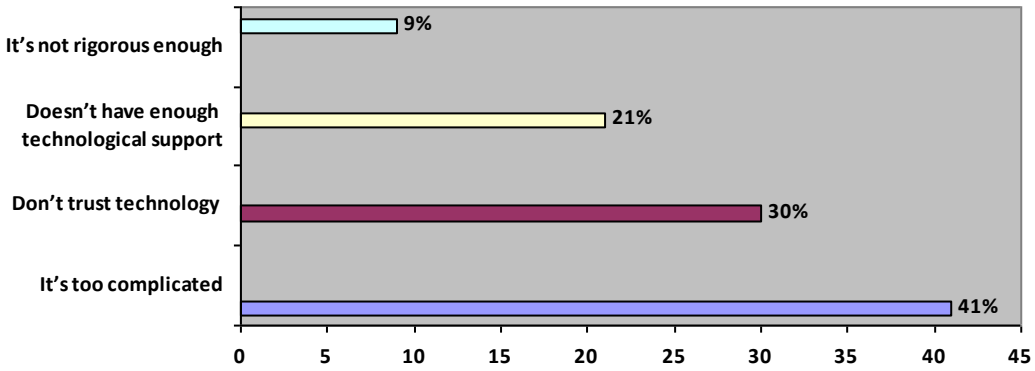

Figure 2: Reasons behind the fairness of technology

Figure 2 shows that the maximum number of respondents (41%) thought the technology was complicated, so they were not habituated to its utilization. Another 30% of respondent argued that they did not believe in technology because they thought with the help of technology, someone/anyone would steal their personal and professional information. Besides, 21% of respondents claimed that working institutions didn't have enough technological support or equipment, so they didn't use technology appropriately. On the other hand, 9% replied that technology was not enough for them, and they felt happy to work efficiently with the help of technology.

Resistance to change

This study has found that almost all teachers were reluctant to use ICT in Madrasa education for various reasons, ranging from fear of job loss to changing organizational culture (Figure 3). It was observed that teachers are used to and comfortable with the way things are usually done, but they don't like changing things up or getting out of their comfort zones.

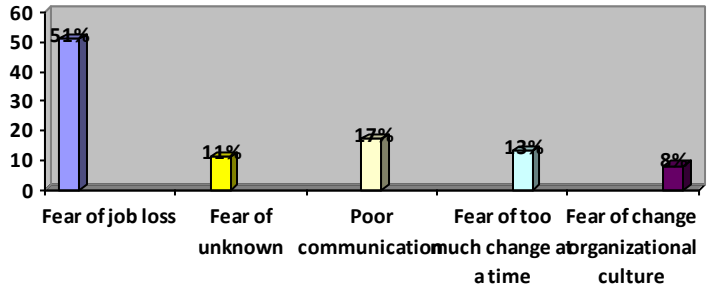

Figure 3: Reasons for teachers' reluctance to use ICT in madrasa education

Figure 3 revealed that the maximum number of respondents (51%) feared their job security if new technology was adopted in their working institute. They thought if new technology were adopted frequently in their workplace, they would lose their job due to the technological facilities. Another 11% of respondents worried about the unknown incident due to the technological revolution. On the other hand, 17% of respondents said that the networking facilities and communication scenario were poor due to the remote institutional location. Besides, 13% of respondents said they feared adjusting to the new environment

created by technology. Only 8% of respondents feared organizational culture change due to technological adoption.

Lack of technological knowledge

The madrassas still don't know what kind of computers and other tech they need. Businesses should understand what their customers want and work to meet those needs. It is essential to have access to tools so that things can work properly and without any problems. Schools and teachers should get ready to let students work alone on one device or with other students on the same device. Teachers should also be given the correct information at the right time on using technology effectively.

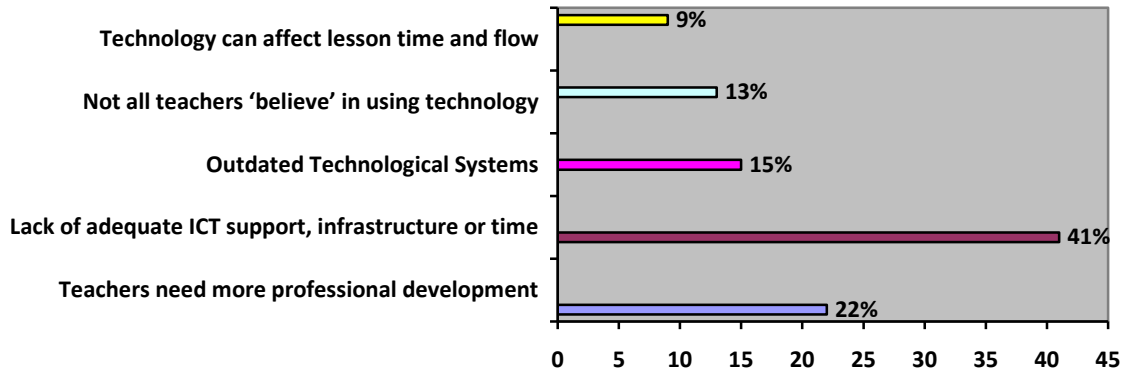

Figure 4: Reasons for teachers' inadequate ICT knowledge

Most respondents (41%) said that lack of adequate ICT support and technical assistance in madrassas were the leading causes of low ICT knowledge (Figure 4). Another 22% of respondents argued that lack of ICT professional development training was another barrier to acquiring ICT expertise. On the other hand, 15% of respondents said that due to lack of updated technological support, they did not get a proper opportunity to update their ICT skills. Besides, 13% of respondents said they feared organizational culture change due to technological adoption. They were afraid to adjust to the new environment created by technology. Only 9% of respondents said they felt insecure because technology would make them more dependent on technology than manual systems.

Scenario of Electricity/ Load shedding

Many Madrassas are still not linked to power; because Bangladesh is a developing country, the government has been unable to connect the country to the national electrical system. As a result, schools in such locations are left disadvantaged and may be unable to provide computer courses.

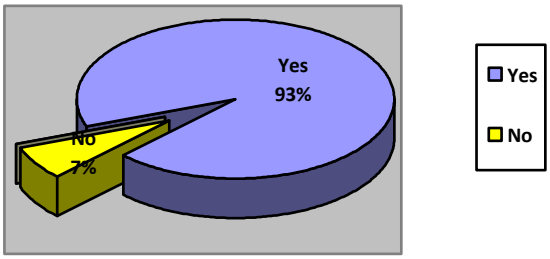

Figure 5: Scenario of loadshedding

The above figure revealed that most of the respondents (93%) said they have bitter experience with electricity or load-shedding. A considerable number of load-shedding interrupted their regular activities. Another 7% of respondents argued that they were not experienced with load-shedding in their locality or institutions. The figure has shown the reasons why loadshedding occurred in their locality or institution:

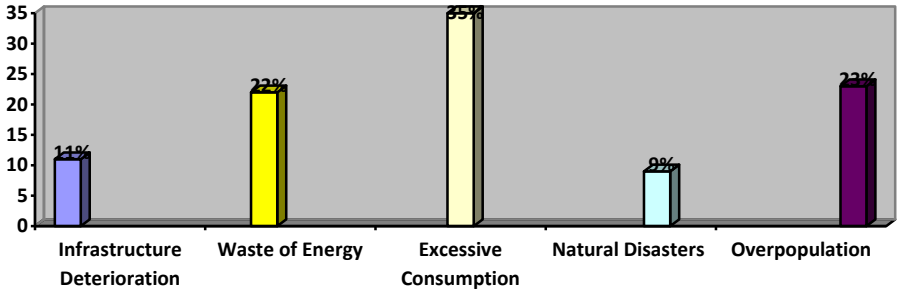

Figure 6: Respondents' perception about the reasons of loadshedding

The above figure revealed the causes of load-shedding in the locality. 11% of respondent said that infrastructure deterioration was one of the major causes which create load-shedding in the locality. Another 22% argued that multiple misuses of the energy sector was another cause that created load-shedding. 35% of respondent claimed that excessive consumption of electricity caused load-shedding. 9% of respondent said that excessive natural disasters destroyed many structures, which caused load-shedding. Another 23% of respondent claimed that the population creates a burden on national capacity, which causes load-shedding.

Scenario of Internet speed

Due to the prohibitive expense of Internet access, few schools can provide students with access to the World Wide Web.

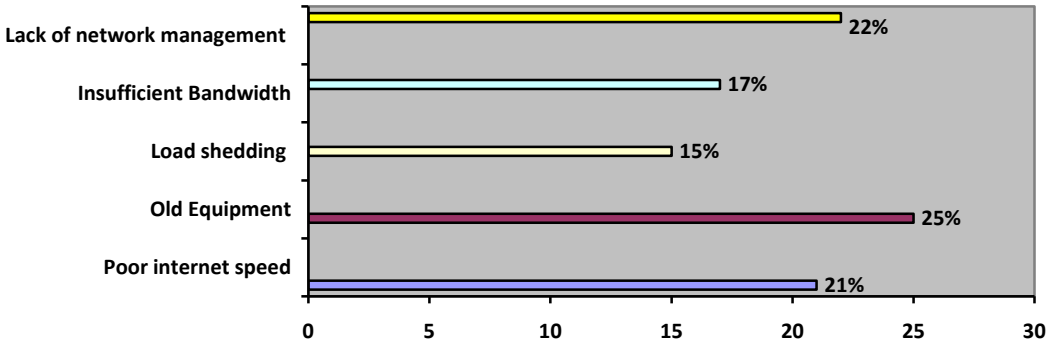

Figure 7: Reasons of students' limited access toInternet

Around one-fourth of respondents said that poor internet speed was a significant barrier to implementing digital teaching-learning at the local level (Figure 7). Another, 25%, argued that due to a lack of new ICT technology, they did not get proper opportunities to update ICT skills. 35% of respondent claimed that excessive electricity consumption caused load-shedding, which hampered their regular job. 17% of respondent said that due to insufficient bandwidth facilities, they felt uneasy about making their lesson and other activities during stayed at the institutes. Another 22% of respondents claimed that they were facing difficulties if the technical equipment didn't work correctly and they were absent from networking management.

Broken condition of computer equipment

Although many schools have received donated used computers, they have not been adequately provided with the necessary resources and knowledge for maintenance and repair. As a result, it is rather typical to see computer labs in schools filled with dysfunctional computers, some of which can be fixed and others that cannot.

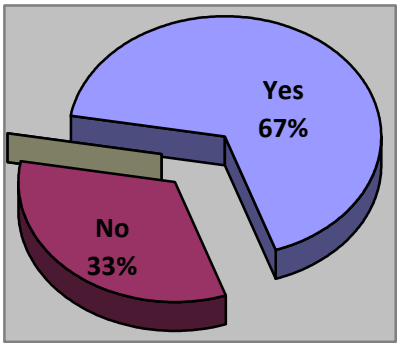

Figure 8: unsatisfactory condition of computer and technical equipment

Over two-thirds of respondents (67%) alleged that the existing technological and technical equipment was in broken condition. Due to a lack of financial support, they could not service their equipment correctly (Figure 8). Another 33% of respondents said that existing technological and technical equipment was in good condition.

The Obstacles That Prevent Teachers from Utilizing ICT

To investigate teachers' perspectives on a list of eight obstacles that impede them from using ICT in the classroom. As can be seen, teachers' attitudes on these three issues are the most significant impediments to adopting ICT in classroom activities. Teachers stated that a lack of technical assistance in schools and limited access to the Internet and ICT made it difficult for them to use ICT in the classroom. A lack of class time was another significant impediment to integrating ICT into the curriculum.

Table 3: Barriers of using ICT in job place

Statements	Strongly disagree	Undecided	Strongly agree	Total Percentage
	Percentage	Percentage	Percentage	
Limited class time prevents me from using ICT.	27	10	63	**100%**
Little ICT access stops me from using it in class.	7	13	80	**100%**
Social attitudes about ICT prevent me from using ICT colleagues.	56	18	26	**100%**
The school's views on ICT discourage me from using it.	46	14	40	**100%**
Time to learn ICT prevents me from using it.	3	7	90	**100%**
Qualification requirements deter me from using ICT.	33	10	57	**100%**

According to Table 3, a vast majority (80%) expressed that limited access to ICT tools in their institutions diminishes their interest in learning and utilizing them. Additionally, 27% of respondents reported having full access to existing ICT tools. Conversely, 10% of respondents did not express interest in answering this question. Regarding digital classrooms, 80% of respondents indicated limited access to multimedia classrooms, and most do not have access to these facilities. Only 7% of respondents mentioned having opportunities to use ICT tools in their working institutions. Moreover, 13% of respondents provided no information on this issue.

Regarding social attitudes towards ICT tools and technology, 56% of respondents mentioned that changes in societal views have led them to learn and use digital devices from their student life to their professional careers. Another 26% of respondents stated that negative

social views towards ICT have posed difficulties in using ICT tools. Additionally, 18% of respondents provided no information on this issue.

Regarding institutional perspectives on ICT use, 46% of respondents reported positive attitudes towards ICT, making them comfortable using technology. However, 40% of respondents claimed that negative institutional attitudes discourage them from using ICT tools in their job sectors. Furthermore, 14% of respondents provided no information on this issue.

Regarding ICT learning, 90% of respondents mentioned that although they have some knowledge of ICT, they require further expertise to conduct classes and other activities effectively. On the other hand, 3% of respondents stated that they do not need any support to enhance their ICT capacity, and 7% did not provide any information on this issue. Regarding ICT qualifications, 57% of respondents mentioned that the lack of experience in ICT-related fields hindered their access to ICT tools in their job sectors. Another 33% of respondents stated they did not face any difficulties in their job sector despite lacking ICT-related experience. Additionally, 10% of respondents provided no information on this issue.

Discussion of the study

The study's findings highlight essential obstacles as well as possible gains in incorporating information and communication technology (ICT) into Bangladesh's Dhakil Madrasa curriculum. Despite government efforts to update the educational system, Madrasas continue to use ICT at a far lower rate than regular schools. In contrast to nearly 70% of mainstream secondary schools, just 25% of Dhakil-level Madrasas have included ICT in their curricula, according to current statistics from the Bangladesh Bureau of Educational Information and Statistics (Begum, R. 2017). The persistent differences in educational opportunities and resources, especially in religious organizations, are brought to light by the digital divide.

Infrastructural Challenges

The absence of suitable infrastructure is one of the main obstacles noted in the report. Many madrasas, especially those in rural regions, struggle to provide their students with enough access to essential ICT tools like computers and reliable internet connection. This infrastructure gap is a substantial obstacle to the successful integration of ICT (Bhuiyan, S. I. 2015). Unreliable energy makes These issues worse, making it harder for madrasas to keep up the essential technology infrastructure.

Teacher Preparedness and Training

The inadequate ICT training provided to teachers is another critical issue. According to the survey, many Madrasa instructors lack the competence and self-assurance necessary to incorporate ICT into their lesson plans successfully. This is partially because no specialized training courses cater to madrasa instructors' unique requirements (Begum, R. 2017). Furthermore, educators have a widespread hesitancy to embrace novel technology, stemming from apprehension about unfamiliarity and apprehension about upending conventional pedagogical approaches.

Cultural and Ideological Resistance

ICT integration has also been shown to be significantly hampered by ideological and cultural opposition. Specific Madrasa community stakeholders see ICT as a possible danger to the traditional religious curriculum. The spiritual emphasis of Madrasa education, which has historically strongly emphasized Islamic studies, may be diluted by the addition of contemporary subjects and technology, raising concerns (Hossain, M. A., & Rahman, S. 2017). The Qawmi Madrasas, which function autonomously and give precedence to Islamic instruction over non-religious topics, are incredibly resistant to this.

Prospects for ICT Integration

The study finds several encouraging opportunities for ICT integration in madrasas at the Dhakil level despite these obstacles. The government's attempts to update the curriculum with ICT components and educate Madrasa instructors in ICT are positive moves (Begum, R. 2017). Furthermore, there is a chance to modernize Madrasa education while maintaining its religious core thanks to ICT's ability to improve religious education through digital resources, including online religious texts, instructional software, and virtual learning environments. Additionally, ICT use may enable more participatory and exciting educational activities, bridging the gap between religious and secular education (Karim, A. R., & Haque, S. M. 2017). Additionally, raising students' digital literacy may increase their chances of finding employment in the contemporary workforce.

Finally, the study demonstrates the intricate interactions between educational, cultural, and infrastructure elements that affect how ICT is integrated into madrasas at the Dhakil level. Even if there are still many obstacles to overcome, there are many chances to use ICT's advantages to raise the standard of instruction in these places of worship.

Conclusion

Information and communication technology (ICT) integration into Dhakil-level Madrasa education in Bangladesh offers significant possibilities and problems. With just 25% of Madrasas including ICT in their courses, compared to nearly 70% of mainstream secondary schools (Uddin, M. 2016), government initiatives still show little ICT adoption in these institutions. Fundamental limitations include poor infrastructure, limited teacher preparation, and cultural opposition anchored in worries over diluting traditional religious education (Sarker, S. 2018).

Still, the research also shows excellent opportunities for ICT integration. ICT may improve religious and secular education in Madrasas through focused teacher training, government assistance, and culturally responsive curriculum development, bridging the digital gap and preparing students for the contemporary workforce (Sabur, Z. 2018). Bangladesh's Madrasa education system may reach a more balanced and inclusive learning environment where students are prepared with the required skills to flourish in a digital world by tackling the recognized difficulties and using the chances. Effective integration of ICT in Madrasas

would call for constant efforts, cooperation among stakeholders, and a dedication to match modern educational approaches with conventional values.

Recommendation

Enhance ICT Infrastructure in Madrasas:

The report gives critical advice that Dhakil-level Madrasas concentrate on improving their ICT infrastructure, especially in rural locations with few resources. The government's spending on dependable power, internet access, and essential gear like projectors and PCs should be increased. In contrast to over 70% of mainstream schools, just 25% of Dhakil-level madrasas have ICT infrastructure (Islam, M. S., & Islam, M. R. 2016). It is imperative to close this gap to facilitate successful ICT integration.

Implement Comprehensive Teacher Training Programs:

The report emphasizes the necessity of comprehensive ICT training courses designed with Madrasa teachers in mind. Technology adoption in the classroom is hampered by the fact that many educators lack the knowledge and self-assurance to include ICT in their lessons. To effectively use technology in both religious and secular education, training programs should consist of both the technical components of ICT and pedagogical tactics (Rahman, S. 2019). Opportunities for ongoing professional development should also be offered to instructors so they may stay current on the newest technological developments.

Develop a Culturally Sensitive ICT Curriculum:

Creating an ICT curriculum that supports Madrasas' educational objectives and religious beliefs is crucial to overcoming resistance from various cultures and ideologies. To educate students about the modern workforce, the curriculum should integrate secular courses and include digital tools that complement Islamic studies. It may be ensured that the ICT integration is seen as an enhancement rather than a threat to conventional education by involving religious experts in the curriculum-building process (Rahman, M. M. 2020).

Promote Awareness and Advocacy:

The research suggests raising stakeholders' understanding of the advantages of ICT in Madrasa education such as parents, educators, and religious authorities. Advocacy efforts have the potential to modify attitudes and create an atmosphere that is conducive to the use of ICT in madrasas (Riaz, A. 2020).

Increase Government Support and Funding:

The government needs to provide more funding and offer incentives to madrasas so they will embrace ICT. This might take the form of awards for Madrasas that effectively incorporate ICT into their curricula, subsidies for buying technology, and grants for constructing infrastructure (Zaman, H. 2018). Such actions would promote broader adoption and aid in closing the educational system's digital gap.

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