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E-Governance at the Grassroots: Measuring Citizen Trust in Union Digital Centers in Bangladesh

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Abstract

Citizen trust serves as a key indicator of how effectively public institutions function. When institutional performance fails to meet public expectations, it can erode trust and ultimately hinder governance processes. Conversely, efficient, transparent, and responsive service delivery strengthens trust and reinforces government legitimacy. In this context, the Government of Bangladesh has established Union Digital centers (UDCs) to streamline service provision and promote inclusive access to information related to health, education, agriculture, law, human rights, and more particularly for rural populations. This study aims to examine the extent to which citizens trust UDCs, identifying the performance-related factors that shape trust in these service hubs. It also explores how UDCs contribute to the broader e-governance agenda in rural areas. Utilizing both primary and secondary data sources, the research employed a mixed-methods approach. A total of sixty respondents who had previously received UDC services were surveyed through semi-structured questionnaires and fourteen UDC entrepreneurs were interviewed. Findings suggest that citizen trust in UDCs is closely tied to the quality and timeliness of services delivered. UDCs contribute significantly to simplifying government procedures by minimizing bureaucratic layers and making services more accessible and hassle-free. Ultimately, the functionality and responsiveness of UDCs play a crucial role in fostering trust among rural citizens.

Keywords: E-governance, citizen trust, Union Digital Centre, Service delivery, Rural Governance

Introduction

In recent years, Information and Communication Technologies (ICTs) have been widely recognized as effective instruments for enhancing socio-economic development. In an effort to ensure greater transparency and improve service accessibility for rural communities, Bangladesh launched Union Information and Service centers (UISCs) in 2010. These centers aimed to deliver public services directly to the grassroots level. In 2014, the UISCs were rebranded as Union Digital centers (UDCs). Operated under a public-private partnership model, UDCs have been established in all 4,554 union councils across the country, serving as one-stop service delivery hubs (Biswas & Roy, 2020). Union Digital centers (UDCs) are operated by local entrepreneurs within the premises of the Union Parishad (UP), the lowest administrative tier of local government that directly links the state with rural citizens. By facilitating access to public services, UDCs significantly reduce both time and cost for users and service providers. As such, UDCs play a crucial role in advancing the vision of a Digital Bangladesh (TIB, 2017). However, the question has raised to what extent and how much Union Digital Center has gained citizen's trust through providing digital services to the rural people.

Because, in recent years, public trust in government institutions has come under increasing scrutiny, particularly in contexts where access to quality services is limited or inconsistent. Trust is not only a relational concept between individuals but also a critical organizational asset. As

Cook and Wall (1980) argue, trust functions as a fundamental element in sustaining the long-term stability of institutions and the well-being of their members. In the sphere of governance, trust influences how citizens perceive institutional legitimacy and effectiveness, especially in the context of service delivery.

Trust can be categorized in multiple ways. Uslaner (2000) distinguishes between generalized trust, which is rooted in a broader moral outlook and tends to be stable over time, and particularized trust, which is more situational and dependent on direct interpersonal or institutional interactions. While generalized trust rests on the belief that "most people can be trusted," particularized trust centers on knowing specifically "whom to trust," particularly in cases where individuals do not share common backgrounds or values (Putnam, 2000). This distinction is critical in the context of rural Bangladesh, where citizens at the union level often exhibit low levels of generalized trust in government mechanisms due to long-standing issues of bureaucratic inefficiency and lack of transparency (Zhang & Bhattacharjee, 2024).

In this regard, the Access to Information (a2i) program, through the establishment of Union Digital centers (UDCs), attempts to restore citizen confidence by providing timely, transparent, and people-centric services. When such services are delivered in a reliable and efficient manner, public trust is more likely to be cultivated, thereby reinforcing the legitimacy and perceived responsiveness of local government (Tolbert & Mossberger, 2006). However, where service delivery is inconsistent or marred by delays and lack of communication, trust can quickly erode, underscoring the fragile nature of citizen-institution relationships at the grassroots level.

2. Literature review

Information and Communication Technologies (ICTs), particularly e-government platforms and social media, can significantly enhance transparency and accountability in public institutions. By promoting open access to information and enabling citizen engagement, these tools serve as effective mechanisms for reducing corruption and fostering a culture of openness in governance. The emergence of e-governance has transformed public service delivery by making government institutions more transparent, efficient, and citizen-oriented (Bertot, Jaeger, & Grimes, 2010). In developing countries like Bangladesh, Union Digital Centers (UDCs) are considered critical components of grassroots-level e-governance, aimed at reducing the digital divide and ensuring access to essential services for rural citizens (Nur Ullah & Biswas, 2024). Established under the Access to Information (a2i) program, UDCs serve as one-stop service centers that provide information and services related to education, agriculture, health, and administrative processes (A2i Program, 2021).

In the modern era, governments are increasingly compelled to become more efficient, interconnected, and responsive in order to meet the rising expectations of their citizens. There is growing demand for public services to be readily available, often instantly at the click of a button. The ability of a nation to achieve development, prosperity, and sustained growth is closely tied to how effectively it gathers, accesses, and utilizes relevant information. In that sense, access to

information is vital for enabling citizens to understand their rights and for reducing social marginalization (Harande, 2009).

Furthermore, Heeks (2002) argue that ICT-enabled e-governance can significantly contribute to rural development by enhancing the flow of information and knowledge between rural and urban populations in developing countries. In that case, Local Government can help speed up the decision-making process and provide prompt services to the people because of better use of local knowledge, direct contact with citizens and greater ability to overcome communication problem (Siddiqui, 2005). Two types of local government institutions exist in Bangladesh- rural and urban. Union Parishad, the lowest tier of rural local government institutions is the largest service facilitator body with 4554 one-stop information and service delivery outlets known as Union Digital Centre (Mosharref & Asad, 2015).

However, trust functions as the foundational element that binds societies together. Within the social sciences, trust has long held a central theoretical and practical significance, especially as a prerequisite for the effective operation of government institutions (Jamil & Askvik, 2013). Today, the study of trust has become increasingly interdisciplinary, attracting attention across fields such as political science, economics, sociology, and psychology. In democratic systems, citizens' trust is essential for effective governance and public service delivery. However, in recent decades, public administration scholars have expressed concern over the global trend of diminishing public trust in institutions. This erosion of trust is often attributed to ongoing political instability, undemocratic practices, corruption, and inadequate institutional reforms (Kathi & Cooper, 2008).

Hossen et al. (2025) examine how e-governance initiatives in Bangladesh are facilitating the country's transition from a digitally connected society to a Smart Bangladesh. The study highlights the role of ICT, institutional reform, and citizen-centric service delivery in driving this transformation. The paper further discusses that digital literacy and awareness significantly impact citizens' engagement with UDCs. Individuals with lower educational backgrounds are more dependent on UDC intermediaries, while younger and more educated users prefer direct online platforms. This indicates a gap in trust and usability depending on the users' socio-economic status and technological competence. Additionally, the success of UDCs in fostering trust is often contingent upon the attitudes and behavior of service providers, as courteous and responsive staff improve public perceptions of reliability and efficiency (Islam, Hasan, & Faysal, 2025).

Several studies have raised concerns regarding structural and operational challenges within Union Digital Centers (UDCs) that potentially hinder their effectiveness in building sustainable citizen trust. Issues such as poor infrastructural facilities, irregular internet connectivity, limited manpower, bureaucratic red tape, and weak accountability mechanisms have been repeatedly cited as barriers to optimal service delivery (Siddiqui, 2005). These challenges not only frustrate users but also contribute to skepticism and a gradual erosion of public confidence in the system. According to Rahman, Islam, & Ali (2020), to mitigate these concerns and ensure consistent

trust-building, there is a pressing need for continuous training and capacity development of UDC staff, community outreach programs to raise awareness about available services, and the establishment of effective oversight and grievance redress systems. In summary, while UDCs represent a promising model for grassroots e-governance in Bangladesh, citizen trust is not uniform. It is shaped by a complex interaction of service quality, user experience, socio-demographic characteristics, and institutional transparency.

2.1 Theoretical and Analytical Framework

Trust in public institutions can be understood through several theoretical frameworks. Butler (1991) identified ten personal attributes—such as integrity, competence, fairness, openness, and loyalty—that foster trust in individuals, emphasizing the personal qualities of the trustee as key components. From a performance-based approach, public institutions that deliver effective and reliable services are more likely to gain trust, while poor performance can lead to public dissatisfaction and skepticism (Mishler & Rose, 2001; Kumlin, 2004; Christensen & Laegreid, 2005). However, this link is not always straightforward; studies indicate that improved service delivery does not automatically enhance trust due to the interplay between actual service quality, public perception, and expectations (Baniamin, 2019).

The social capital theory asserts that trust emerges through ongoing social relationships and community engagement. Citizens embedded in networks of trust and mutual reciprocity are more likely to exhibit higher levels of trust in institutions such as Union Digital centers (Mishler & Rose, 2001). Regular positive interactions with public institutions enhance familiarity and strengthen trust. The demographic approach highlights how variables like age, education, gender, and political orientation shape trust. Educated individuals are typically more knowledgeable about government functions and therefore more inclined to trust public institutions (Christensen & Laegreid, 2005; Bouckaert & Van de Walle, 2001). Likewise, social roles, occupation, and income influence individual attitudes towards government, either positively or negatively (Kuenzi, 2008).

However, the analytical framework of this study is derived from the preceding theoretical discussions and literature review. It aims to explore the factors that influence citizen trust in Union Digital Centers (UDCs) in rural Bangladesh. In this framework, citizen's trust functions as the dependent variable, reflecting the extent to which rural users perceive UDCs as reliable and effective institutions for service delivery.

The independent variables encompass a broad range of contextual, institutional, and service-related factors, such as demographic geography (age, gender, education level, and occupation of the service recipients), social capital (the strength of community relationships and trust networks), service delivery (efficiency, accessibility, and satisfaction with the services received), officials' behavior with citizens (professionalism, respectfulness, and responsiveness of UDC staff), institutional capacity (availability of resources, trained personnel, and administrative competence).

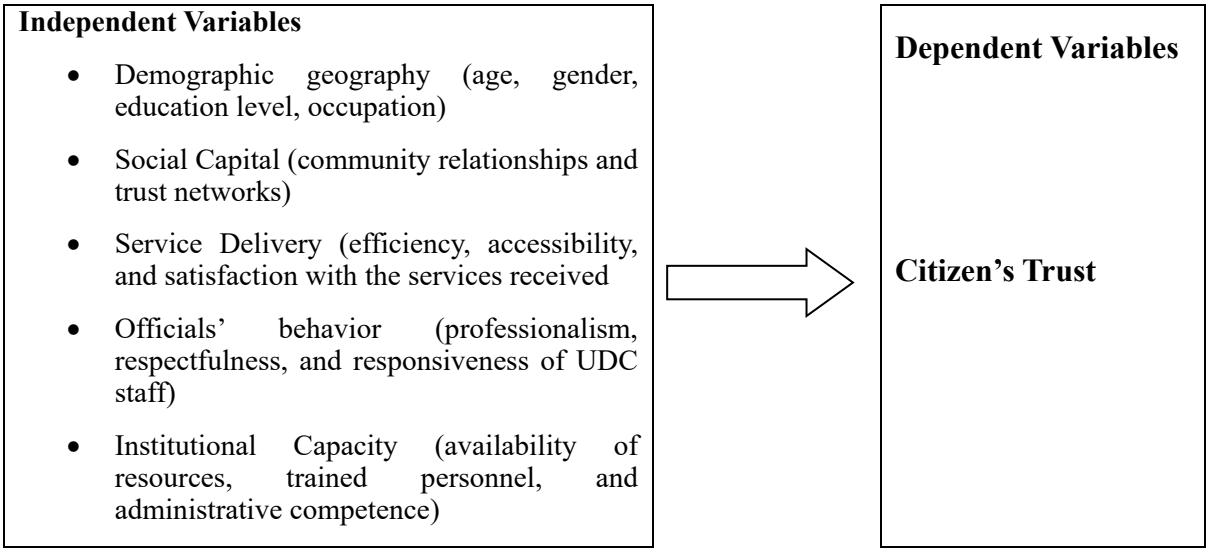

Figure 1. Analytical framework

3. Methodology

This study focuses on assessing the level of citizens' trust in Union Digital Centers (UDCs), which are situated at the Union Parishad level. Data were collected from ten UDCs across five Upazilas in the Pirojpur District of Barishal Division, with two centers selected from each Upazila. Given the central objective—to evaluate the extent of public trust in UDCs—the researcher conducted extensive field visits to ensure authenticity and accuracy in data collection.

A mixed-methods approach was employed, combining both quantitative and qualitative techniques to provide a comprehensive understanding of citizens' experiences and the challenges they face in accessing digital services through UDCs. As it's pointed out, there is no single "best" method for data collection; rather, a combination of approaches often yields more robust insights (Ahmed, Ahmed, & Faizullah, 2018). Accordingly, this study integrated both primary and secondary data sources.

Primary data were gathered through a semi-structured questionnaire survey from 60 citizens following a purposive sampling technique and fourteen UDC entrepreneurs were interviewed . Here, citizens as participants were selected those who already received services from the chosen UDCs to provide diverse perspectives. Secondary data were obtained through an extensive review of relevant literature, including books, academic articles, journal publications, newspaper reports, and official documents related to UDCs and digital governance in Bangladesh.

The survey questionnaire incorporated several types of measurement tools. Many items were based on a five-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5), allowing respondents to express varying levels of agreement. Additional questions used binary scales (Yes/No) and simple rating scales (1–5) to evaluate specific aspects of UDC services,

where 1 indicated the lowest level of satisfaction and 5 the highest.

To analyze the collected data, both descriptive and statistical techniques were applied to ensure logical interpretation and valid conclusions. The findings were presented using tables, pie charts, and bar diagrams for clearer visualization of citizens' trust and service experiences.

4. Findings and Analysis

4.1 Data Obtained from Citizens Who Have Already Visited Union Digital Centre (UDC)

There exists a significant gap between theoretical knowledge and practical experience. In the context of this research, most Union Digital centers (UDCs) are located adjacent to Union Parishad offices. Consequently, the researcher conducted field visits to these Union Parishad offices to access the nearby UDCs and collect relevant data. Here, the respondents for this study were citizens who had visited the UDCs to receive various digital services.

Table 1. Respondents profile (Source: Field survey)

Profile	**Category**	**Frequency and Percentage**	
Gender	Male	37	61%
	Female	23	39%
Age	Below 30	7	11.67%
	31-40	15	25%
	41-50	7	11.67%
	Above 50	31	51.66%
Occupation	Govt. Service	5	8.33%
	Private service	3	5%
	Business	32	53.33%
	Students	7	11.67%
	Others (Housewife, Farmers)	13	21.67%
Education	No Education	7	11.67%
	Under SSC	30	50%
	SSC/ HSC	22	36.67%
	Honor’s/Masters	1	1.67%
	Above Master's	0	0%

Table 1 presents the demographic profile of the respondents, including gender, age, educational background, and occupation. These factors are crucial in understanding the variations in citizens' trust and access to Union Digital Centers (UDCs). Among the 60 respondents, a majority were male (n = 37), while females accounted for 23 participants. This gender disparity suggests that males tend to visit UDCs more frequently than females. One potential explanation is that men, who are generally more mobile and engaged in public life, are more aware of UDC services. In contrast, women often face mobility restrictions and limited access to information due to socio-cultural norms, making it more challenging for them to access UDCs independently.

In terms of age distribution, the largest group of respondents (over 50%) were aged between 55 and 65 years. These individuals primarily visited UDCs to access social safety net services, particularly the old age pension scheme. According to government policy in Bangladesh, men are eligible for this scheme at the age of 65, while women qualify at 62. These elderly citizens often seek assistance from UDCs in submitting applications for such entitlements. Another significant group (25%) fell within the 31–40 age bracket, and their primary reasons for visiting UDCs included submitting passport applications and applying for government jobs. Conversely, only 7 respondents were younger individuals (aged 18–30), indicating that the younger generation may either lack interest or have limited confidence in the services provided by UDCs.

Respondents also represented diverse occupational backgrounds, including government employees, private sector workers, businesspersons, students, farmers, and housewives. Notably, 53.33% of the respondents involved in small or large-scale business reported using UDCs mainly for trade license applications. UDCs assist these citizens in completing and submitting the necessary documents for such licenses. Business owners were found to access UDC services more frequently than individuals from other professions, such as government service holders (8.33%), private service employees (5%), students (11.67%), and housewives and farmers (21.67%).

Regarding educational attainment, approximately 50% of respondents had education levels below the Secondary School Certificate (SSC), while 11.67% had no formal education. About 36.67% had completed SSC or Higher Secondary Certificate (HSC) qualifications. Only one respondent held a bachelor's (Honors) degree, and none had attained a master's degree or higher. These findings suggest that UDCs are more frequently utilized by individuals with lower levels of education, indicating that UDC services may be perceived as more accessible or relevant to those with limited formal education, compared to highly educated individuals who may seek alternative service channels or have digital literacy to manage online services independently.

Table 2. Citizens awareness about UDCs services (Source: Field survey)

Category	No. of Respondents	Percentage (100%)
Fully Aware	15	25%
Partially aware	41	68%
Have no Idea	4	7%
Total Respondents	60	100%

Although Union Digital Centers (UDCs) were established to ensure inclusive access to public services, citizen awareness about the full range of services remains limited. Findings from the field survey indicate that not all citizens are well-informed about the services offered by UDCs. As shown in Table 2, a significant portion of respondents (41 out of 60) reported being only partially aware of UDC services. These individuals stated that they were familiar only with the specific services they had personally accessed, lacking knowledge of the broader service offerings available through the UDCs. Moreover, 25% of respondents claimed to be fully aware of the services provided by UDCs. These individuals attributed their awareness primarily to online sources, suggesting that digital connectivity can play a vital role in enhancing public knowledge about e-governance initiatives. However, a small minority of respondents (7%) admitted to having no prior knowledge of UDC services before their visit. These first-time users had learned about UDCs through word-of-mouth, particularly from local Union Parishad members, chairpersons, friends, or family members. Without targeted awareness campaigns and community engagement, the potential of UDCs to bridge the digital divide and improve service delivery at the grassroots may remain underutilized.

All Union Digital centers are situated at remote areas of Local Government at Union Parishad. It is well known, majority people at rural areas either little literate or do agricultural work. So, these kinds of people are basically rural based people. Trust also varies from person to person because it depends on whether a man/ woman gets services good or bad. It may vary from age to age, education to education or occupation to occupation. Earlier data of Respondents profile shows that 37 respondents of 60 have educational qualification under SSC. From the survey, it was found that 70% respondents have trust on UDC whether little or large trust. They argued that they have got their desired services from the UDC. The rest 30% opinioned that they had to wait for services for the long time & came here more than 3 times. That's why they have lost their trust on UDC services. Sometimes mismanagement of UDC hampers their desired services. However, the services of UDC are not ignorable as most of the respondents are benefitted from the Union Digital Centre.

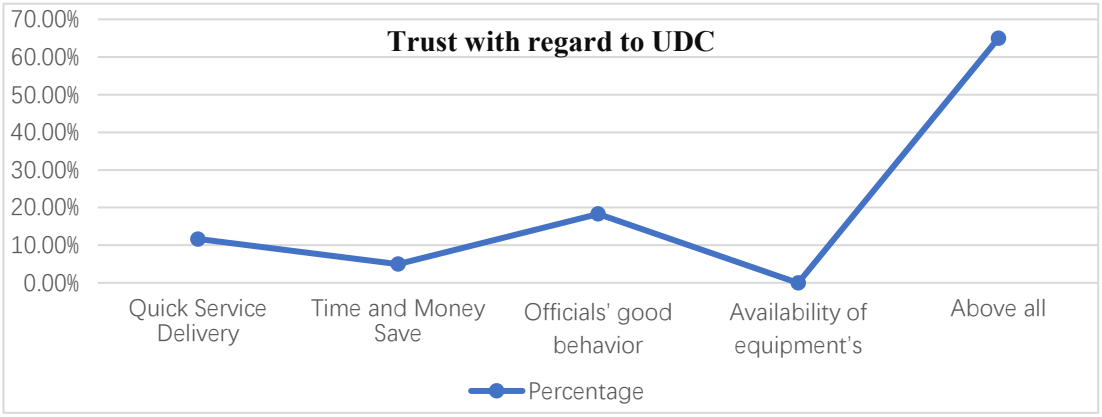

Figure 2. Citizens conception about trust on UDC (Source: Field survey)

Citizens have different perception considering trust on Union Digital Centre. The surveyed data shows the citizens conception about the trust based on some issues like timely services, time and money save or UDC officials' good behavior or availability of equipment's etc. At UDC, the few citizens argued that services are not provided timely. 11.67% respondents opinioned about quick services to the citizens. Some respondents (18.33%) opinioned that citizens do trust more when officials do good behavior with the general citizens, in that situation they are not disagreed to wait for getting their desired services. Only 3 respondents said that they come UDC because here services are hassle free, save their time and money. Overall, the researcher observed from the survey that most of the people want all the categories regarding trust on UDC. 65% respondents argued trust depends on the all accessibility of getting quick services or availability of official's equipment or others. Basically, UDC is one-stop service to all citizens from one place. So that through the application of ICT, people get easy access to any information smoothly and quickly with a lowest cost from the Union Digital Centre.

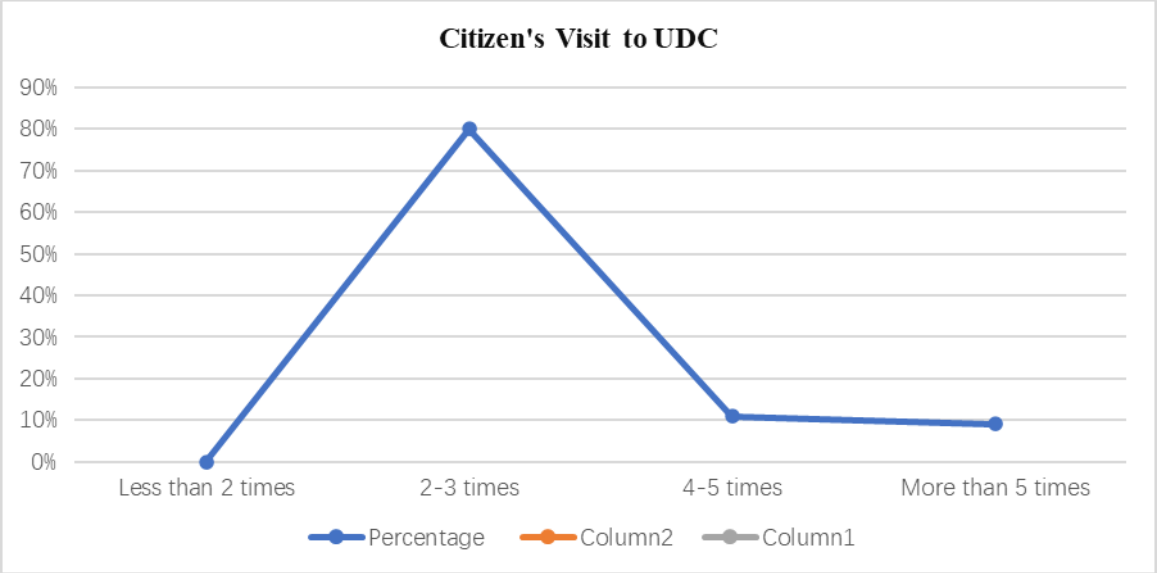

Figure 3. Citizen's visit to UDC for getting desired services (Source: Field survey)

Citizens go to Union Digital Centre for taking different services. Most of the times they have to visit UDC more than two times. During survey, the researcher has found that 3 citizens came 2 times for knowing whether he/she is allowed for getting old-aged pension or not. Sometimes UDC officials keep them waiting for getting information. Figure 3 delineates those 48 respondents (80%) came UDC either two or three times. There are no respondents who argued that they didn't come to UDC less than two times. 11% respondents had to come 4-5 times. There are some special cases that is 5 respondents (9%) had to visit UDC more than five times. They opined that sometimes they had from comeback UDC without taking services due to the absence of entrepreneurs or lack of internet connection etc. This picture is very clear when the data of citizens waiting time at UDC is shown. The figure 5 vividly delineates that citizens have to wait at least one hour. 45% respondents argued that every time, they had to wait minimum one hour for getting services. 26 respondents (44%) of 60 respondents (100%) opined that they had to wait for two hours. Several times they have seen that there is very rush, that's why they had to wait more than two hours. Unfortunately, there are no one respondents who responded that he/she had get services within thirty minutes.

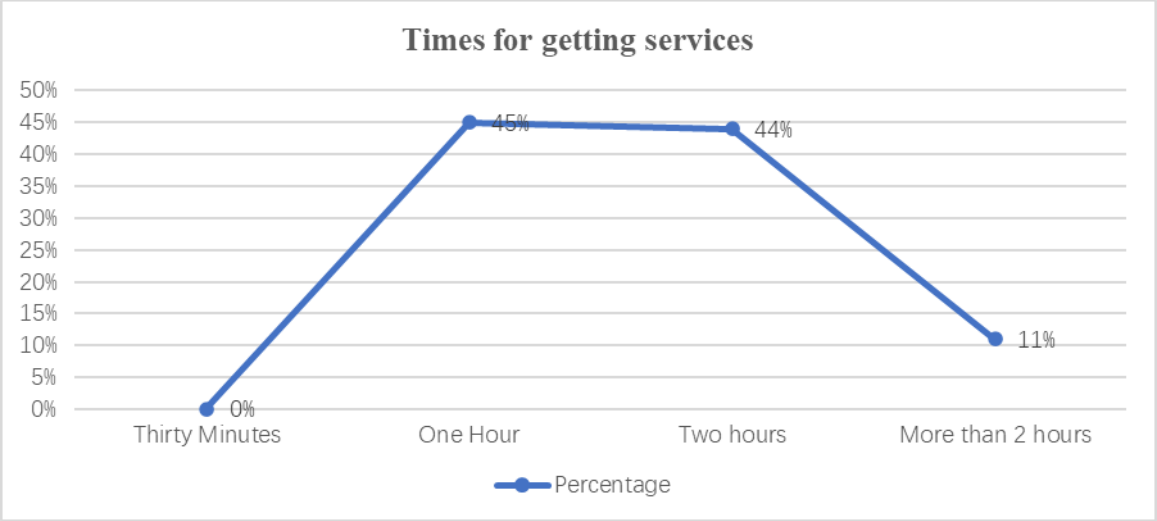

Figure 4. Times at UDC for getting desired services (Source: Field survey)

Although the services of Union Digital Centre are one-stop service, either citizens had to come UDC twice/more or had to wait one to three hours. One respondent said during data collection, he had to wait more than five hours for applying widow allowance at UDC. This time-consuming culture impacts on citizen's trust.

However, a lot of services are delivered from Union Digital Centre like birth/death registration, citizen certificate, warrish certificate, different public exam, university admission related information, mobile banking service, agriculture, market related information, health, employment related information, government application form download, old-aged pension, widow allowance, computer compose, print, scanning, photocopy, video calling, e-ticketing, pension application for teachers, trade license application, online passport fee submission and application for passport, visa etc. All citizens are not fully aware about the delivered services from UDC which is proved by the previous data. Following services are received by the respondents of this research.

Table 3. Services received from UDC by Citizens

Services	Frequency	Percentage
Birth/death Registration	18	30%
Citizen Certificate application	8	13.33%
Government forms download/apply	9	15%
Social safety net information	17	28.33%
Compose, printing, scanning, e-mail	1	1.67%
Passport	7	11.67%
Total	60	100%

Table 3 delineates that majority respondents have received the common services like birth and death registration through online. 30% respondents opined that for online registration for getting birth or death certificate they came to UDC and it is an easy process to get the services from UDC comparison to any other computer stall of market. The researcher has met with some men and women who came to get either old-aged pension or get information about their old aged pension. That ration is 28.33% that indicates social safety net related information. 15% respondents came to UDC for applying or downloading different government officials' forms. Among them some were teachers who came to apply for pension application, some came to apply for government job. Online passport application is also done by UDC. Seven respondents argued that passport application through online is very easy at UDC than outside computer stall at local area.

Here, 5 (five) point scales are used to measure the effectiveness of UDC's performance. The five scales are determined as very effective (5), effective (4), somehow effective (3), less effective (2), Not effective at all (1).

Table 4. Effectiveness of UDC's performance (Source: Field survey)

Category	Frequency and Percentage				
	1	2	3	4	5
Accessibility of general people to UDC for getting desired e-services	0	0	19	8	33
	0%	0%	31.67%	13.33	55%
Skills /qualifications of UDC entrepreneurs to provide services	0	8	8	11	33
	0%	13.33%	13.33%	18.33%	55%
Amount of fees paid for each service taken from UDC	0	8	33	19	0
	0%	13.33%	55%	31.66%	0%
Regularity of UDC entrepreneurs for providing e-services	0	4	9	9	38
	0%	6.66%	15%	15%	63.33%
Existing level of UDC's performance to meet the demand of general people	0	2	32	22	4
	0%	3.33%	53.33%	36.67%	6.67%

Table 4 illustrates the effectiveness of UDC's performance according to the citizen's view. It is a positive result that there was no respondent who has rated 1 as Not Effective at all. Only 13.33% respondents rated 2 as Less Effectiveness about the skills and qualifications of UDC entrepreneurs to provide services for the citizens, though 55% rated 5 as Very Effective about the officials' skills. Fees that are taken from the citizen, some (13.33%) argued that it is Less Effective. They said that the services should be free for all citizen. However, 55% respondents rated 5 as very effective about the accessibility of general people to UDC for getting desired e-services. These ratings expressed their satisfaction on the UDC services. 63.33% respondents said that when they come to the UDC, they get the entrepreneurs at office. But 15% respondents rated 3 as somehow effective as they opined that when they visit UDC for getting services they saw one entrepreneur female/male was absent. That's why they had to wait for long time to get the desired services from the one entrepreneur. Existing UDC's performance are somehow effective which is rated by the majority people (53.33%) to meet the demand of general people.

UDC got computer, printer and others equipment from the a2i project in 2011. After that, a long time has been passed, still now UDC didn't get any new equipment. So, the working condition of that computer and others equipment are bad and totally damaged. Entrepreneur's repair or buy new equipment like photocopy machine, computer, printer etc. Availability of

service equipment and its good working condition is analyzed through five categories like strongly disagree, disagree, neutral, agree and strongly agree. No one respondents were disagreed or strongly disagreed about the working condition of equipment. 45% respondents were neutral in that question. But 53% respondents were agreed about the good working condition of official's equipment, that indicates those citizens got timely services without any hassle of equipment.

The study has tried to identify the obstacles of providing services to the citizens. It is really noticeable that majority respondents (82%) said that they didn't face any hindrance to get the services from Union Digital Centre. There were different options like electricity, internet connectivity, political influence, qualification of UDC entrepreneurs, others etc. 11% respondents said that they had to face electricity problem during getting services from UDC, as the UDC had no power supply back up. 7 % respondents opined that they faced internet server problem during working for online application. There was no political influence to get the services from Union Digital Centre.

Table 5. Any officials who are known to citizen before (Source: Field survey)

Category	Frequency	Percentage (100%)
Yes	26	43%
No	34	57%
Total Respondents	60	100%

Table 5 depicts the social capital of the respondents. Social capital refers to the connections among individuals, along with the norms of reciprocity and trustworthiness that emerge from these networks (Putman, 2000). Such kinds of networks can facilitate access to get desired services within very short time and hassle free (Coleman, 1988). Theoretically it is known that persons who have known person before, he/she may get the services with fewer obstacles. But practically the scenery is absolutely different. About 57% respondents opined that they have no known person at UDC before, but they got services from the UDC easily. 43% respondents had known person at Union Digital Centre.

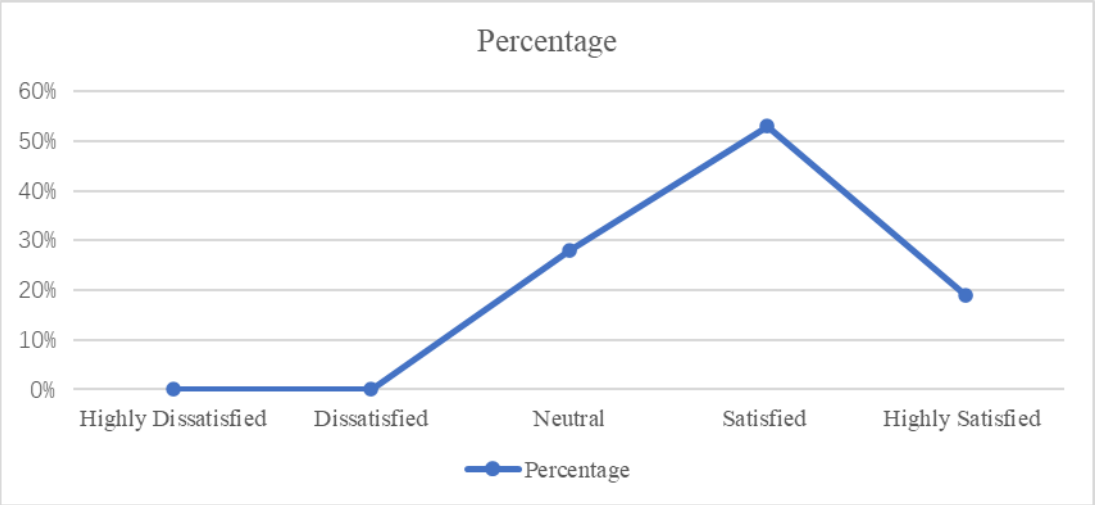

Figure 5. Citizens satisfaction on UDC Services (Source: Field survey)

Figure 5, clearly illustrates the satisfaction level of citizens on UDC services. Majority respondents, 53% are satisfied about the services of Union Digital Centre. 19% respondents are highly satisfied because they argued that they have got their desired services without any kinds of problems. 28% respondents kept themselves neutral that means they are neither satisfied nor dissatisfied. It is seen generally when respondents are not fully aware about their deserved services from Union Digital Centre. However, the researcher had tried to identify any respondents who had received any kinds of training from the UDC under a2i programs. But unfortunately, there were no one respondent who received training.

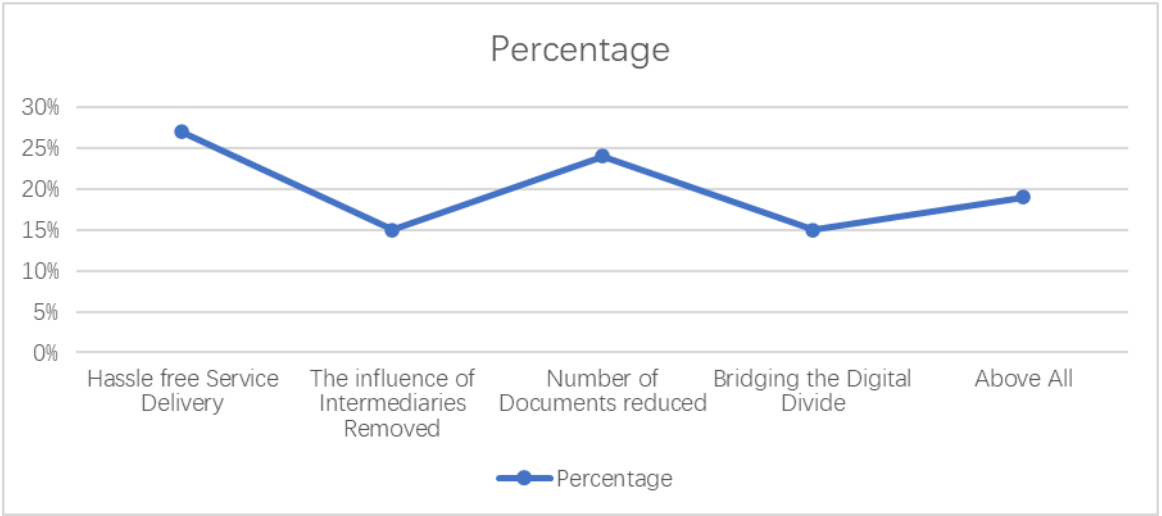

Figure 6. UDC simplifies Government services (Source: Field survey)

Union Digital Centre simplifies government services through mitigating the digital divide by bridging ICT-based services and internet access to underserved rural areas, fostering greater inclusion and societal equity (Ferdous, 2025). Figure 6 shows that 27% respondents have received hassle-free services from UDC. On the other hand, 15% respondents argued that in government offices, sometimes people have to face intermediaries, in that case, UDC removes the influence of intermediaries. Definitely a huge number of documents need not to be submitted at UDC like government offices, 24% respondents agreed with that. In the traditional government service delivery system people are often asked for submitting a number of documents to receive services. It is perceived by people that government employees often ask for documents that are actually not required for decision making. Even at times they ask for some of very old and obsolete documents that are hard to collect by service recipients. Often, they do it with the intention that service recipients will surrender to their corrupt longings from their inability to collect sundry documents. The UDC is a quick-win project to address the issue of digital divide. Government services are easily possible to deliver the unreached people at rural area through UDC. Overall, 19% respondents argued that UDC simplifies government services to give access the general rural people at rural area.

For an example of simplifying government services of one citizen, a retired person expressed that at the age of 59 after teaching for over 30 years in public primary schools, he had to submit 21 different types of documents as part of his pension application. Lots of papers were included, like nationality certificate, birth certificate, and even his letter of appointment. He had to spend a total of 28 working days, incur high transportation and even accommodation costs (since he had to travel and stay overnight outside his home district) and visit various government offices multiple times just to get himself in a position to apply. Now the application process is easy due to the UDC services.

The rural citizens have no specific suggestions except to value their time at Union Digital Centre. Because most of the times they have to visit more than 3 times and have to wait three-four hour to get the services. They want prompt services from the Union Digital Centre. They argued that all general people are not acknowledged about the services of UDC. If the officials or respective authority informed the local people about the services, then they will visit for their required services at Union Digital Centre. Sometimes officials of UDC say electricity problem, the office of UDC should have to back up power supply, so that their application doesn't not be closed due to the load shedding as well as internet problem, as internet is connected with the electricity at rural area. All these facilities will save the citizens time which will increase their trust on Union Digital Centre.

4.2 Data Obtained from UDC Entrepreneurs

There were fourteen respondents as entrepreneurs where 5 entrepreneurs were male and the rest 9 entrepreneurs were female. Generally, in every union digital center, there should be present 2 entrepreneurs, one male and one female. But the real scenario is different. Both entrepreneurs are

not present at UDC. So, the respondents show that 35% respondents were male entrepreneurs and 65% were female entrepreneurs. These data proved that female was more active at union digital center than male. 72% respondents age is between 25-35 age and the others is 36-40 age. The researcher had not found any entrepreneurs who was above 40 years old. These data have also prescribed that young person are interested to work at the UDC. All entrepreneurs are educated person, among them, 67% have Honors or above degree background and the others, 33% have SSC/HSC background. This is a good sign for UDC because all are educated person who will be able to provide the services efficiently hopefully.

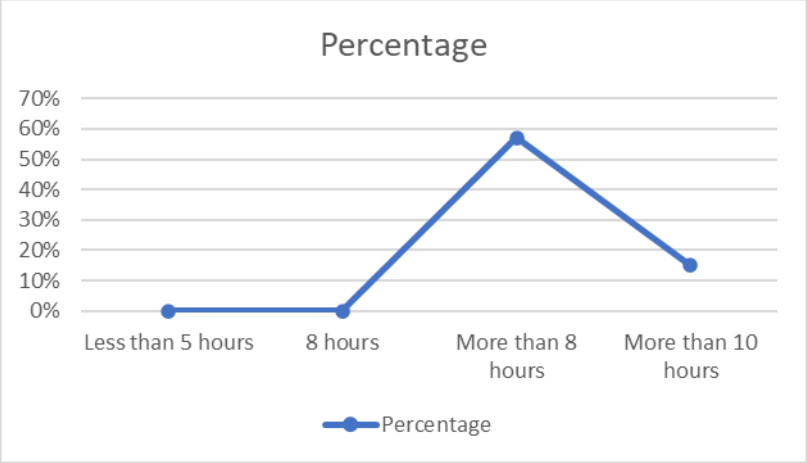

Figure 7. Times spent by UDC entrepreneurs

Figure 7 shows how much times UDC entrepreneurs spent at the Centre. Most of the beneficiaries in the rural areas usually come to the Union Digital Centre for various services like- various govt. forms, public examination results, birth registration, social safety net, information, health and agriculture related information etc. Because of this huge pressure, entrepreneurs have to spend a long time at UDC. 8 respondents argued that they spend more than 8 hours (57.15%) at UDC. 6 respondents opined that they spend near about 10 hours (42.87%). Surprisingly, the researcher had not found any entrepreneurs who spent less than eight hours. These data shows that citizens come to UDC for taking various services and entrepreneurs have to stay at office per day up to finish the work. Income is one of the factors to stay at UDC also, as they have no salary, if they work more, their earning will be more.

However, entrepreneurs argued that they don't get any technical support from the government or upazila office. They have to invest computer, printer, scanner and others accessories personally which is not actually sufficient for smooth running of UDC. When UDC was established in Bangladesh through a2i project, in that time UDC only got computer, printer, photocopy machine. After that the UDC don't get any support from the government regarding these.

Table 6. Rating the effectiveness of UDC capabilities (1=Lowest, 5=highest)

Category	Frequency and Percentage				
	1	**2**	**3**	**4**	**5**
Sufficient equipment to provide e-services from UDC	3	8	3	0	0
	21.43%	57.14%	21.43%	0%	0%
Level of skills to provide the services to the people	0	0	2	9	3
	0%	0%	14.29%	64.28%	21.43%
Received sufficient training for rendering e-services	2	3	8	1	0
	14.29%	21.43%	57.14%	7.14%	0%
Sufficiency of Internet speed for providing e-services	0	9	2	3	0
	0%	64.28%	14.29%	21.43%	0%
Sufficient alternative source of power supply system to run UDC	0	6	5	3	0
	0%	42.86%	35.71%	21.43%	0%

Table 6 depicts the effectiveness of UDC to provide services to the citizen through rating from entrepreneur's perspective. 57.14% respondents rated 2 (less effective) about the statement of 'Sufficient equipment to provide e-services from UDC'. They argued that they don't get any kinds of equipment services from the government. In that question 21.43% said, it is somehow effective. According to them, it is an income generating points for entrepreneurs, so all equipment should be bought by the entrepreneurs personally. So, they buy for doing their business and which is somehow effective but not very effective or effective.

The UDC entrepreneurs are the key personnel for providing the e-services to the rural community people. To make the UDC effective, trained entrepreneurs are very much necessary. The UDC entrepreneurs are some young local people those do not have satisfactory knowledge regarding the e-service delivery to meet the citizens' desire. According the respondents view, if they are trained at a desired level, they will be able to provide more services efficiently. Majority 64.28% rated 4 (effective) about their levels of skills to provide the services to the people. It gives a hope that 21.43% said that their skills are very effective as they see satisfaction on the face of citizens. The rests opined somehow effective. The entrepreneur said that they have improved their computer skill through taking different training on it personally. 57.14% rated 3 thinking that their training is somehow effective. Basically, they received training personally

from different sources, not from the government initiative. For getting these kinds of training, entrepreneurs have to spend money for that. Those who didn't receive training, they said they don't have sufficient training which hampers their efficiency at work.

Internet speed is very important to determine the effectiveness of UDC. All types of e-service activities like e-mail, on-line banking, on-line shopping, Skype, internet browsing etc. largely depend upon the internet speed. If the internet speed is at satisfactory level, e-service delivery can be provided according to the customer's demand. 64.28% responded that their internet speed is not sufficient which is less effective for providing e-services. 14.29% rated 3 and 21.43% rated 4 which means somehow effective and effective respectively. They provide a logic that they take internet connection personally, that's why it is effective.

To make the UDC effective, electricity supply is very important. Uninterrupted power supply plays a vital role for smooth functioning of UDC. 35.71% opined somehow effective of their alternative sources of power supply. 42.86% argued that it is less effective because always it is not possible to back up the power supply personally. Although some UDC have generator for back up the electricity.

According to the entrepreneur's view, although there are various problems or obstacles to provide services such as electricity, internet connectivity, political influence, availability of information etc. But the big problem is that beneficiaries are lacking of ICT knowledge. General citizens don't try to understand the entrepreneurs and sometimes they deny to provide the fixed service charges. The entrepreneurs work under UP chairman with the direction and direction supervision of Upazila Nirbahi Officer (UNO). It is observed that the UDC which is getting proper support from Union Parishad and chairman, it is providing more service to the rural people. They demand for more support from UP and its Chairman for smooth functioning their e-service activities. For the effectiveness of UDC activities and implementing the e-governance in the root level of Bangladesh, more support from Union Parishad and Chairman is required. Otherwise, total effort of implementing e-governance through UDC by providing e-service and minimizing gap between govt. and citizens will be futile.

5. Conclusion

Union Digital Centre (UDC) is an important place in every union where people -especially poor rural grassroots people can get facilities of modern science. It's a blessing for the general people. Through the UDC, modern technologies have reached to the root level of our country due to initiative of present government. Different classes of people can get different types of benefits from the UDC. Students, women, educated unemployed person, farmers, teachers, journalists, employees -government or private, doctors, businessmen, residential/non-residential Bangladeshi people and many other classes of people can get benefits from UDC as per their requirements. Generally, the Union Digital Centre don't get any fund or budget from the government or any other stakeholders. If they got, their infrastructure would be developed, their service capability would be developed, that ultimately would turn to increase trust among citizens.

Data shows that demographic geography is one of the factors, on which citizen trust matters. Through UDC or government, an initiative can be taken to inspire the young people in society. So that young people have trust on UDC and all sectors of people, like farmers, educated, uneducated people get inspiration to go to UDC for receiving services. It is found that due to social capital, citizen trust varies person to person. But it should not be happened. Although the research data showed that the behaviors of UDC entrepreneurs are good, cooperative. So, any kinds of political influence should not be allowed. Citizen means simply citizen who comes to get service at UDC. The intendent variable of service delivery is the central fact of citizen's trust. Though, Information came from the citizen is somehow satisfactory, the service providers should be more aware to provide services. If citizens have to wait at UDC office for long time, it may hamper citizen trust.

Few citizens have argued that there is mismanagement at UDC. If the citizens are acknowledged before about their expected services and proper procedure, they will not be suffered from indecision. Most importantly, though entrepreneurs mean business from his own pocket, they don't get any salary. But the government can inspire the entrepreneurs through taking some initiatives such as awarding best UDC/ best entrepreneur, providing technical support sometimes, so that they get inspiration to provide better services to the citizens.

Only selected services are provided by the UDC, but UDC may increase their services. It will increase citizens trust on UDC as well as reduce government pressure. Both the beneficiaries and officials of UDC have posed a great expectation for online service delivery. But some sorts of challenges are identified in developing UDC services that should be overcome very soon. In order to move towards a better future that ensures a competitive, socially responsible, vibrant, and dynamic UDC in Bangladesh, it needs to bridge the gap between the services promised and services offered, so that citizens could be satisfied and trust would be increased on Union Digital Centers (UDCs).

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