Application of E-Services in the Urban Local Government in Bangladesh: A Study on Rajshahi City Corporation

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Abstract

Public sector information and communication technology (ICT) has a long history of using mainframe operations in the 1970s and microcomputing in the 1990s. It is recognized by the Government of Bangladesh that ICT has a development impact, as it enhances access to information, the quality of public service delivery and strengthens good governance practices. Since the ending of 2019, the outbreak of the Covid-19 epidemic has revived the importance of e-governance. In the initial stage of this climacteric period when people were socially distanced, restricted in quarantine, and not interacting face-to-face with each other created a whale of a ponderosas of e-governance in Bangladesh. Without any doubt, e-governance is the prime catalyst for urban development. Rajshahi City Corporation (RCC) is one of the oldest and leading municipalities in e-governance adaptation in Bangladesh. RCC, jointly with the local government division under the ministry of local government, has introduced e-governance through initiating an electronic birth registration information system (EBRIS) in 2001. This is one of the best paradigms for adapting e-governance at the urban local government level in Bangladesh. As a part of e-governance, RCC has launched Smart Auto-Rickshaw Management System (SARMS) to reduce traffic congestion on city roads. The study, based on primary sources of information, seeks to assess the role of SARMS in reducing traffic congestion on city streets as part of e-governance. In order to properly implement e-governance in Rajshahi City Corporation (RCC), researchers have come up with two recommendations for e-service providers following two broad sections. A rich ICT infrastructure is a prerequisite for providing e-services to the recipients. This study is based on empirical research. This first section of this paper is equipped with the details of the respondents, overall opinions of the respondents on e-governance are covered by second section, the third section is depictured the status of e-services in RCC. However, the last section is enclosed by the specific opinions of the respondents on EBRIS and SARMS.

Introduction

For the time being, people's ways of life have become easier, faster, and more relieved by the benediction of information and communication technologies (ICTs) [1]. The application of e-governance creates more widespread employment and rapid productivity which in turn, enhances the quality of life and the enhanced facilities of e-governance make people's life simple [2]. ICT plays a vital role in achieving efficiency and effectiveness of administration of the public sector as well as reduction of corruption. The potential of modern technology has reduced the Culture of Tadbir (Tadbir is a secret negotiable manner of achieving something through lobbying and bribing) and 'Red Tapism' in public sector administration [3]. The public sector has a long history of using information and communication technology (ICT) going back to mainframe operations in the 1970s and micro computing in the 1990s [4]. In the late 90's, increased expansion of information technologies

(IT) by the governments led to the foundation of e-Governance throughout the world. With the advent of the World Wide Web (WWW), people began to use the internet and mobile phones in large numbers. They have started expecting more and more information and online services from governments and corporate organizations to further their civic, professional, and personal lives [5].

At present, the importance of e-governance is increasing globally day by day for ensuring transparency and effectiveness of government at local and national level. Most of the developed countries in the world have already adapted to e-governance [6]. In the urban context of many developing countries, a number of innovative applications that harness ICT are improving the living standard of the citizenry by transforming the delivery of services [7]. It is recognized by the government of Bangladesh that ICT has a development impact, because it increases access

to information, enhances the quality of providing public services, and strengthens the approach of good governance [8]. According to a *Report of Bangladesh Telecommunication Regulatory Commission* (BTRC) from February 2021, the number of mobile internet subscribers (The subscribers or subscriptions who are accessed in the internet within previous 90 days is called IS or internet subscriber) is 103.193 millions (10,31,93,000) and the number of ISP+PSTN subscribers (ISP means internet service provider, company that provides internet connections and services to individuals and organizations and PSTN means public switched telephone network which is the aggregate of the world's circuit-switched telephone network that is operated by national, regional or local telephone operators providing infrastructure and services for the public telecommunication) is 9.522 millions (95,22,000). And the total number of internet subscribers is 112.715 millions (112715000) at the end of February, 2021 [9]. According to the e-government Development Index (EGDI), a biannual survey report of United Nations (UN) 2020, the rank of Bangladesh was 134 in 2010, 150 in 2012, 148 in 2014, 124 in 2016, 115 in 2018 and 119 in 2020 [10].

Another report of the UN shows the actual state of local government level of Bangladesh from a global perspective. According to the survey report of Local Online Service Index (LOSI), 2020 of UN, Dhaka, the biggest municipality of Bangladesh, has ranked 75 with a low level in global ranking [11]. On the other side, New York, a municipality of the United States of America (USA), has placed 2nd position with a very high level according to the same report [12]. Therefore, it can easily be understood that, in the United States, local governments have been at the forefront of e-governance adaptation. Maximum public services at the local government level have been developed on the online basis in the USA, such as payments (like taxes, utility bills, fines, and fees) registrations (like voter, property, bicycle, animal, and recreational purposes also), and all kinds of application and delivery are online-based [13]. In spite of having a lot of limitations and impediments, Bangladesh is trying to adapt to e-governance at the local level by improving the ICT sector [14].

Since early 2019, the outbreak of the COVID-19 pandemic has reinvigorated the importance of e-governance. In the initial stage of this climatic period when people were socially distanced, restricted in quarantine, and not interacting face-to-face with each other created a whale of a ponderosity of e-governance in Bangladesh. e-Governance also facilitates the target of fulfilling Sustainable Development Goals (SDGs) by 2030 (SDGs mean 17 global goals adopted by UNDP for fair and durable development from the planetary biosphere to local community). SDG-11 focuses on sustainable cities and communities which is closely associated with e-governance. Without any doubt, e-governance is the prime catalyst for urban development [15]. Rajshahi City Corporation (RCC) is one of the oldest and leading municipalities in e-governance adaptation in Bangladesh. RCC, jointly with the local government division under the ministry of local government, has introduced e-governance through initiating an electronic birth registration information system (EBRIS) in 2001 with the financial and technical support of UNICEF (UNICEF, an agency of the United Nations, provides developmental and humanitarian aid to the children worldwide)

for the first time in the country. This is one of the best paradigms for adapting e-governance at the urban local government level in Bangladesh [16]. RCC has inaugurated Smart Auto-rickshaw Management System (SARMS) in order to reduce traffic congestion on city roads as a part of e-governance. It has provided a smart card to each driver for ensuring security [17]. It has also introduced e-tender, e-nothi (Nothi means official files and documents), e-application, e-death registration, e-waste management, e-revenue and SMS based information service etc. RCC has recently introduced 'Smart Rajshahi App' for providing twenty-four e-services by only one app [18].

Objectives

This paper is prepared for meeting up the following objectives:
➢ to assess the opinion of e-service providers about e-governance;
➢ to reveal the application of e-services in Rajshahi City Corporation;
➢ to recommend some policy guidelines for the successful implementation of e-governance in urban local government in Bangladesh.

Methodology

In this study, the empirical method has been employed for collecting the first hand data from the general targeted respondents. In this research, one set of structured questionnaires was prepared with both some open ended and close ended questions for collecting the authentic data from the respondents. That set of questionnaire was equipped with four sections. Namely; section A (personal profile of the respondents), section B (common questionnaires on e-governance for all respondents), section C (some rating questionnaires for targeted respondents), and section D (specific questionnaires on EBRIS and SARMS). Ten data entry operators of RCC ward offices (ward no. 4, 8, 11, 13, 14, 20, 22, 23, 25, 27) have been considered as key informants for the interview as well as this study has interviewed ten RCC functionaries (Chief Executive Officer, Chief Revenue Officer, Chief Conservancy Officer, Executive Engineer, Assistant Programmer, Birth and Death Registration officer, E-GP Assistant, and Personal Assistant of Chief revenue Officer) through separate structured questionnaires.

Population

Rajshahi City Corporation is one of the leading municipalities regarding e-governance adaptation in Bangladesh. The city corporation area is 96.68 sq. km., and divided into 30 wards with a population of 3, 83,000 people [19]. According to the objectives of this research, all of the service providers (functionaries) of RCC, where e-governance policies are made and implemented as well as the majority of the e-governance services are provided considered as the population of this study.

Sample Area

Considering the frequency of the e-service providers, Rajshahi City Corporation office and ten (10) ward offices of RCC are selected as sample areas for collecting necessary data.

Sample

A total of 20 respondents are estimated as samples for this study. As e-service providers, ten RCC functionaries and the ten (One from each ward) data entry operators from ward offices are

considered as the samples for collecting data and information.

Sampling Technique
Both probable and non-probable sampling methods are used to collect the sample from the field survey. This research randomly selected the 10 wards out of 30 wards of Rajshahi City Corporation (RCC) to specify the sample area by using a simple random sampling technique (lottery method). According to the purport of this study, purposive sampling technique is chosen in this research for collecting the targeted samples from the specific respondents. This study has applied the purposive sampling technique to collect samples from targeted RCC functionaries such as Chief Executive Officer, Chief Health Officer, Chief Revenue Officer, Chief Conservancy Officer, Executive Engineer, Assistant Programmer, Birth and Death Registration Officer, E-GP assistant, official of Department of Conservancy, Official of Department of Revenue and the data entry operators of RCC ward offices (ward no, 4, 8, 11, 13, 14, 20, 22, 23, 25, 27) within the delimited sample area.

Respondent Type
Some specific officials of Rajshahi City Corporation who are involved in providing e-services to the citizens are considered as the targeted respondents for this study. The types of respondents can be classified into three categories such as higher-grade officials, lower-grade officials and data entry operators. The number of higher-grade officials is eight whereas only two lower-grade officials are selected as targeted respondents. The number of data entry operators is ten (one from each ward office of RCC).

Data Gathered from E-Service Providers
Data collected from the e-service providers are presented and explained as under:
The distribution on the basis of age of the respondents is shown through the following table and figure.

Distribution of Respondents by Age

		Frequency	Percent	Cumulative Percent
Valid	21-30	3	15.0	15.0
	31-40	8	40.0	55.0
	41-50	4	20.0	75.0
	51 and above	5	25.0	100.0
	Total	20	100.0	

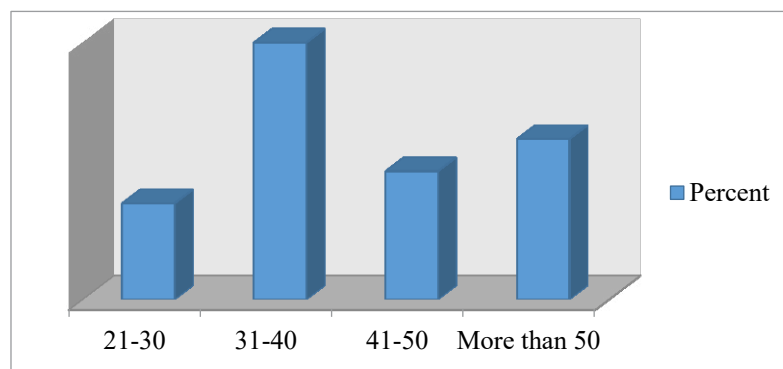**Table 1: Distribution of Respondents by Age**

Figure 1: Distribution of Respondents by Age
Source: Field Survey, 2021.

From the above Table and Figure, it is found that 15 percent (%) of all the respondents are comprised in the age group 21-30. Most of the respondents (40%) are included in the age group 31-40. 20 percent (%) of the respondents are fallen in the age group 41-50. And the rest 25 percent (%) of respondents are more than 51 years old. The above table and figure reveal that the majority of the respondents are of middle age groups.

Distribution of Respondents by Gender
The distribution of the respondents on the basis of gender is shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Male	17	85.0	85.0
	Female	3	15.0	100.0
	Total	20	100.0	

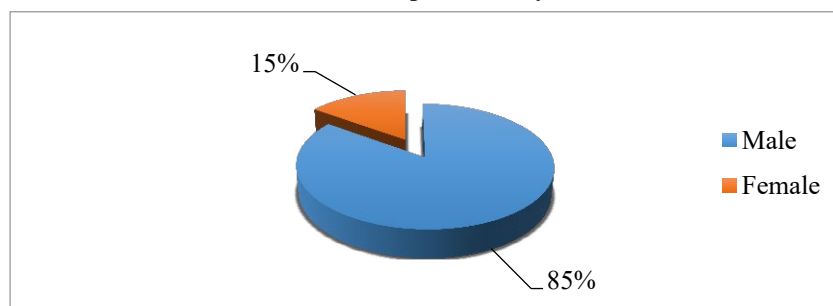**Table 2: Distribution of Respondents by Gender**

Figure 2: Distribution of Respondents by Gender
Source: Field Survey, 2021.

The above Table and Figure, display that 85% of the respondents are male. And only15 percent (%) of the respondents are female. The aforementioned table and figure show that the number of male respondents is almost six times more than female respondents.

Distribution of Respondents by Designation
The distribution of the respondents on the basis of designation is shown the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Higher-grade officials	8	40.0	40.0
	Lower-grade officials	2	10.0	50.0
	Data entry operators	10	50.0	100.0
	Total	20	100.0	

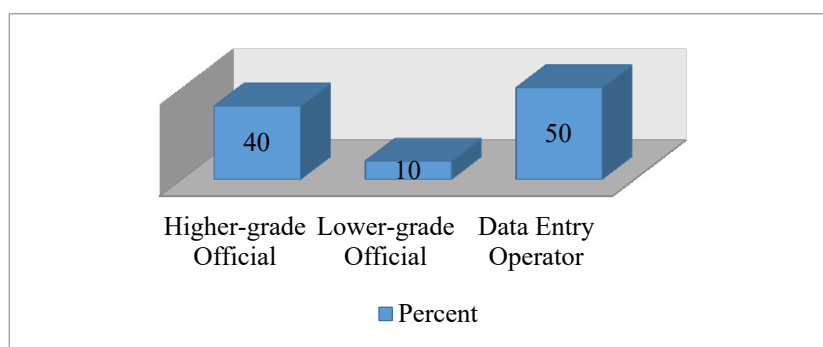**Table 3: Distribution of Respondents by Designation**

Figure 3: Distribution of Respondents by Designation
Source: Field Survey, 2021.

The aforenamed table and figure indicate that 40 percent (%) of the respondents are higher-grade officials. 10 percent of the respondents are of the lower-grade official category. And half (50%) of the respondents are data entry operators. Both table and figure denote that the number of data entry operators is equal to the summation of the number of higher-grade officials and lower-grade officials.

Distribution of Respondents by Educational Level
The distribution of the respondents considering educational levels is shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Higher-secondary	4	20.0	20.0
	Graduation	8	40.0	60.0
	Post-graduation	7	35.0	95.0
	PhD	1	5.0	100.0
	Total	20	100.0	

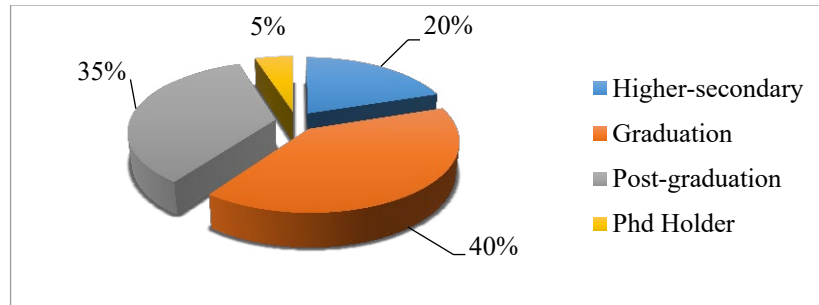**Table 4: Distribution of Respondents by Educational Level**

Figure 4: Distribution of Respondents by Educational Level
Source: Field Survey, 2021.

Table 4 and Figure 4 point out that 20 percent (%) of the respondents are of higher secondary level. 40% of the respondents have completed graduation level. 35 percent (%) of respondents have passed post-graduation level. Only 5 percent (%) of respondents means only one of the respondents has achieved PhD degree. From the above table and figure, it is obvious that almost 75 percent (%) of the respondents have achieved graduation and post-graduation level education.

Distribution of Respondents by Marital Status
The distribution of the respondents according to marital status is shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Married	18	90.0	90.0
	Unmarried	2	10.0	100.0
	Total	20	100.0	

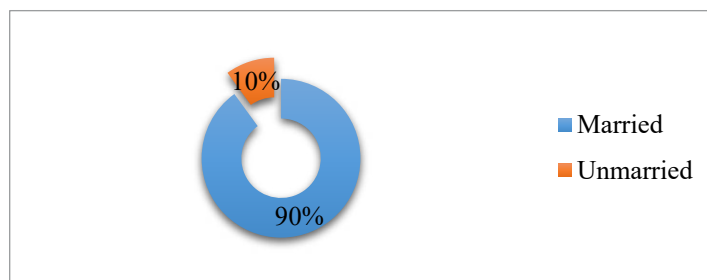**Table 5: Distribution of Respondents by Marital Status**

Figure 5: Distribution of Respondents by Marital Status
Source: Field Survey, 2021.

The above table and figure show that most of the respondents (90%) are married. Only 10 percent (%) of the total respondents are unmarried.

Distribution of Respondents by Monthly Income
The distribution of the respondents on the basis of monthly income is shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
	Less than 20000	13	65.0	65.0
	21000-50000	2	10.0	75.0
Valid	51000-80000	4	20.0	95.0
	More than 80000	1	5.0	100.0
	Total	20	100.0	

Table 6: Distribution of Respondents by Monthly Income
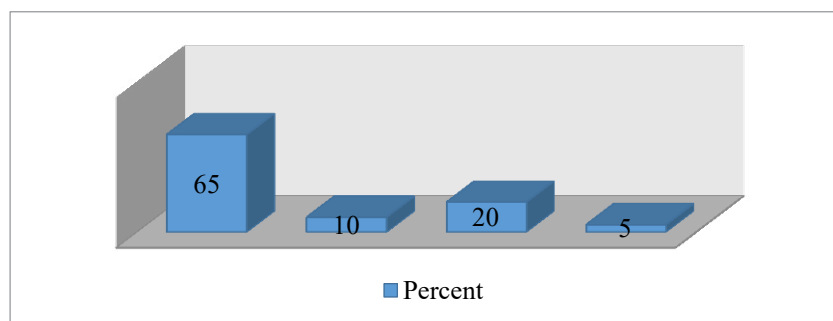

Figure 6: Distribution of Respondents by Monthly Income
Source: Field Survey, 2021.

From the above table and figure, it can be said that the monthly income of 65 percent (%) respondents is less than 20000 Tk. 10 percent (%) of total respondents earn 21000-40000 Tk. And 20 percent (%) of them earn 61000-80000 Tk. The monthly income of 5 percent (%) respondents is more than 80000 Tk.

Distribution of Respondents by Religion
The distribution of the respondents based on the consideration of religion is shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
	Muslim	19	95.0	95.0
Valid	Hindu	1	5.0	100.0
	Total	20	100.0	

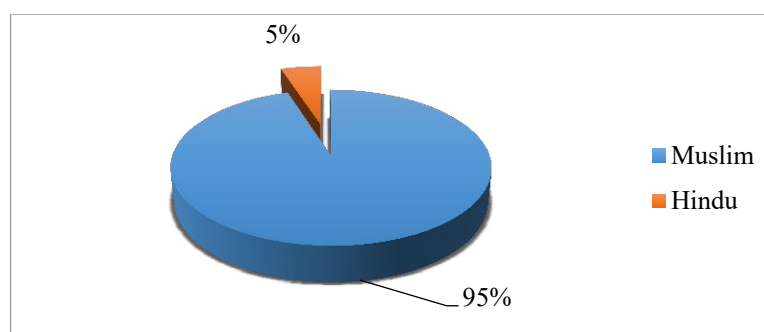**Table 7: Distribution of Respondents by Religion**

Figure 7: Distribution of Respondents by Religion
Source: Field Survey, 2021.

Table 7 and Figure 7 indicate that the majority of the respondents (95%) are Muslims. And only 5(%) of all the respondents are Hindus.

Distribution of Respondents by Usage of E-mail
The distribution of the respondents on the ground of whether they use e-mail or not is shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Use	10	50.0	50.0
	Don't Use	10	50.0	100.0
	Total	20	100.0	

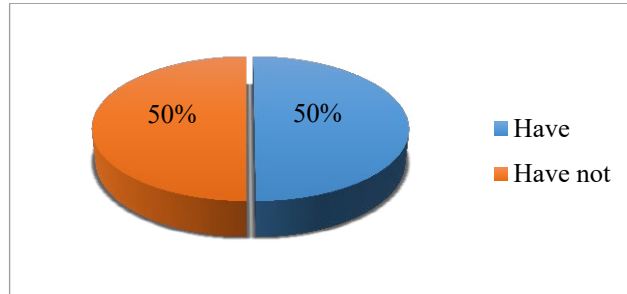**Table 8: Distribution of Respondents by Usage of E-mail**

Figure 8: Distribution of Respondents by Usage of E-mail
Source: Field Survey, 2021.

From the aforementioned table and figure, it is obvious that half (50%) of the total respondents use e-mail. On the other side, the other half (50%) of respondents don't use e-mail.

Presentation of Respondents' Views on E-Governance

There are 10 common questions in the questionnaire for the respondents who work as e-service delivers in the RCC. The e-service delivers have been asked about the common questions and they have given their opinion. The following part of this chapter has been equipped on the basis of their opinion.

Have You Heard the Concept of E-Governance?

The opinions of the respondents about the above question are presented in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	14	70.0	70.0
	No	6	30.0	100.0
	Total	20	100.0	

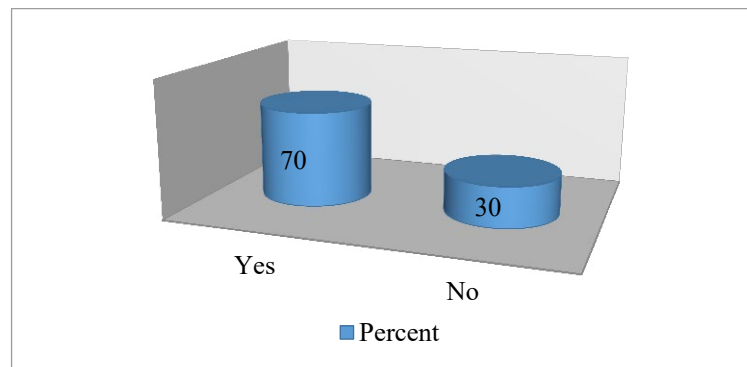**Table 9: Hearing the Concept of E-Governance**

Figure 9: Hearing the Concept of E-Governance
Source: Field Survey, 2021.

From the above table and figure, it is clearly shown that 70 percent (%) of the total respondents have heard about e-governance. And 30 percent (%) of the respondents haven't heard anything about e-governance.

Opinion about the Sufficiency of Governmental Financial Support for Implementing E-Governance at ULG Level

The opinions of the respondents about sufficiency of governmental financial support for implementing e-governance at ULG level are shown in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	12	60.0	60.0
	No	8	40.0	100.0
	Total	20	100.0	

Table 10: Sufficiency of Governmental Financial Support for Implementing E-Governance at ULG Level
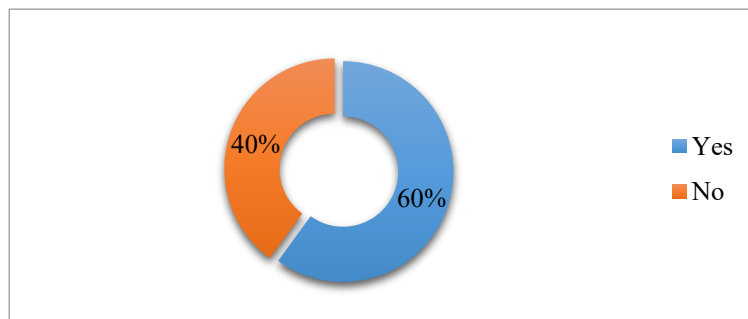

Figure 10: Sufficiency of Governmental Financial Support for Implementing E-Governance at ULG Level
Source: Field Survey, 2021.

Table 10 and Figure 10 about the sufficiency of governmental financial support for implementing e-governance at ULG level prove that 60 percent (%) of the respondents acknowledged the financial support of government for implementing e-governance at ULG level is sufficient. But the 40 percent (%) of the respondents put their views that the financial support of the government for implementing e-governance at ULG level is not sufficient.

Views of the Respondents about Adequacy of ICT Infrastructure at ULG in Bangladesh
The views of the respondents about the adequacy of ICT infrastructure at ULG in Bangladesh are presented in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	8	40.0	40.0
	No	12	60.0	100.0
	Total	20	100.0	

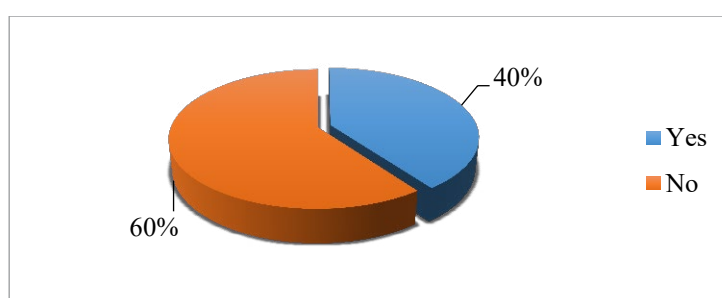**Table 11: Adequacy of ICT Infrastructure at ULG in Bangladesh**

Figure 11: Adequacy of ICT Infrastructure at ULG in Bangladesh
Source: Field Survey, 2021.

In the above table and figure, it is shown that 40 percent (%) of the respondents think that ICT infrastructure is adequate for providing e-services at urban local government level in Bangladesh. And 60 percent (%) respondents think that it is not adequate.

Views of the Respondents about Usages of ICT Tools for Providing E-Services
The respondent's opinions about using ICT tools for providing e-services are presented in the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Desktop	17	85.0	85.0
	Laptop	3	15.0	100.0
	Total	20	100.0	

Table 12: Usages of ICT Tools for Providing E-Services
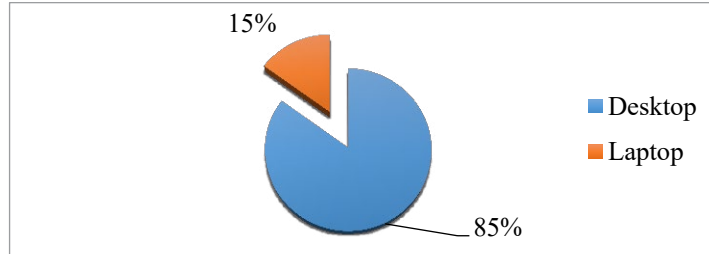

Figure 12: Usages of ICT Tools for Providing e-Services
Source: Field Survey, 2021.

The above table and figure direct that 85 percent (%) of respondents use desktop for providing e-services in their offices. On the other side, only 15 percent (%) use laptop for providing e-services in their offices.

Problems Faced by E-Service Providers
The following table and figure show various problems faced by the respondents.

		Frequency	Percent	Cumulative Percent
Valid	Poor internet speed	10	50.0	50.0
	Lack of electricity	3	15.0	65.0
	Lack of ICT knowledge	7	35.0	100.0
	Total	20	100.0	

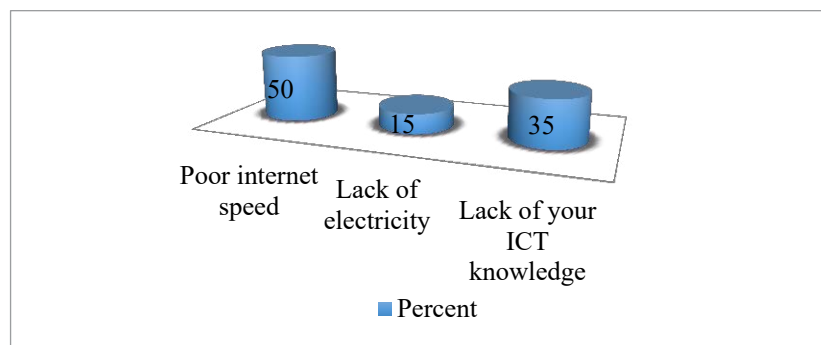**Table 13: Problems Faced by E-Service Providers**

Figure 13: Problems Faced by E-Service Providers
Source: Field Survey, 2021.

It is seen in the table 13 and figure 13 that half (50%) of the total respondents face problem of poor internet speed. Only 15 percent (%) respondents face electricity problem. Rest of the respondents (35%) face lack of ICT knowledge.

Views about the Scope of Culture of Tadbir in E-Service Delivery
The perceptions of the respondents on the scope of the culture of tadbir (Tadbir is a secret negotiable manner of achieving something through lobbying and bribing) in e-service delivery are shown below.

		Frequency	Percent	Cumulative Percent
Valid	Few cases	7	35.0	35.0
	Very few cases	9	45.0	80.0
	Not at all	4	20.0	100.0
	Total	20	100.0	

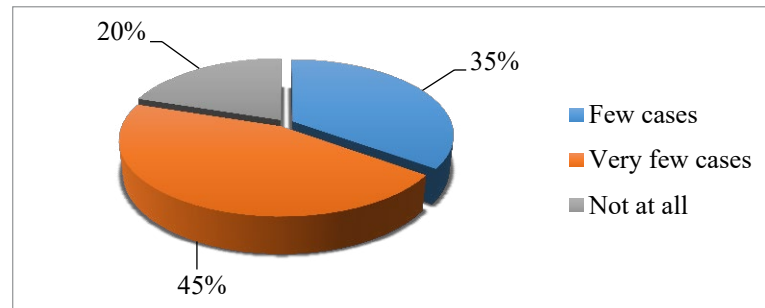**Table 14: Scope of Culture of Tadbir in E-Service Delivery**

Figure 14: Scope of Culture of Tadbir in E-Service Delivery
Source: Field Survey, 2021.

From the aforenamed table and figure, it is clearly revealed that 35 percent (%) of the respondents think that the culture of tadbir has taken place in e- service delivery in few cases. Majority respondents (45%) think that it has been happened in very few cases. And 20 percent (%) of the total respondents think that there is no place of culture of tadbir in e-service delivery at all.

Level of Satisfaction to Deliver E-Services to the Citizens
The satisfaction levels of the respondents are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Satisfied	7	35.0	35.0
	Neutral	3	15.0	50.0
	Highly dissatisfied	1	5.0	55.0
	Dissatisfied	9	45.0	100.0
	Total	20	100.0	

Table 15: Level of Satisfaction to Deliver E-Services to the Citizens

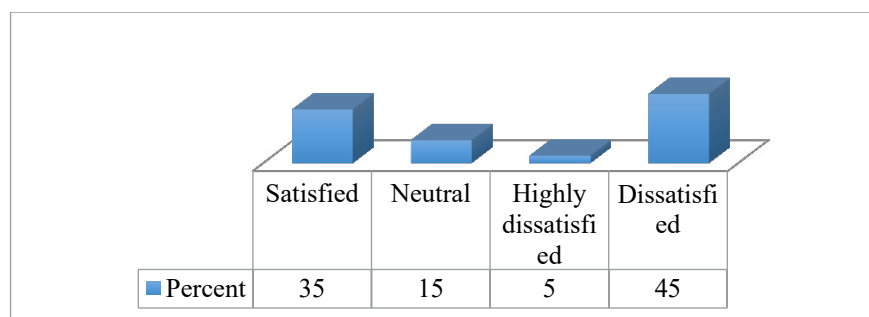|	Satisfied	Neutral	Highly dissatisfied	Dissatisfied
Percent	35	15	5	45

Figure 15: Level of Satisfaction to Deliver E-Services to the Citizens
Source: Field Survey, 2021.

It is found in the above table and figure that 35 percent (%) of the total respondents are satisfied to deliver the e-services to the citizens. A small portion of the total respondents (5%) are highly dissatisfied and majority respondents (45%) are dissatisfied with delivering e-services to the citizens. And 15 percent of the respondents are in a neutral position in this regard and they did

not like to pass any comments about this question.

Having Formal Training on IT
The opinions of the respondents about formal training on IT are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
	Yes	7	35.0	35.0
Valid	No	13	65.0	100.0
	Total	20	100.0	

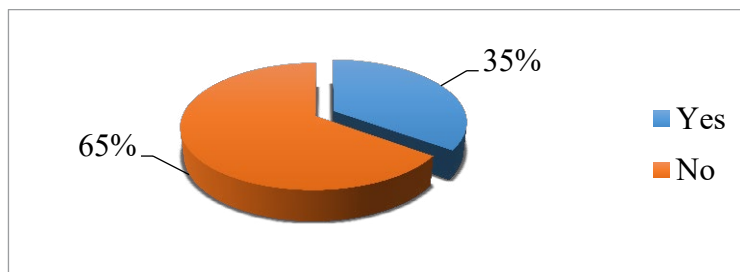**Table 16: Having Formal Training on IT**

Figure 16: Having Formal Training on IT
Source: Field Survey, 2021.

The above table and figure point out that 35 percent (%) of the total respondents have formal training on information technology (IT). On the other hand, most of the respondents (65%) almost double have no formal training on IT.

Participation in Seminars or Workshops on E-Governance
The respondents' views on taking part in seminars or workshops on e-governance are shown under through the table and figure.

		Frequency	Percent	Cumulative Percent
	Yes	8	40.0	40.0
Valid	No	12	60.0	100.0
	Total	20	100.0	

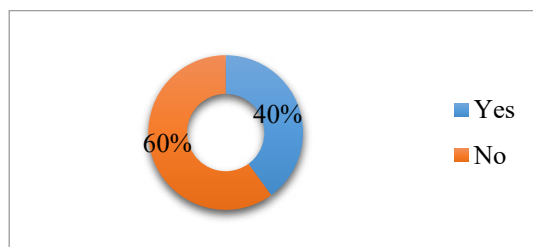**Table 17: Participation in Seminars or Workshops on E-Governance**

Figure 17: Participation in Seminar or Workshop on E-Governance
Source: Field Survey, 2021.

In the aforenamed table and figure, it is indicated that 40 percent (%) of the respondents didn't take part in the formal seminars or workshops on e-governance. And 60 percent (%) of the respondents took part in the formal seminars or workshops on e-governance.

Means of Informing Citizens about E-Governance
The following table and figure show the means to inform citizens about e-governance in the RCC area.

		Frequency	Percent	Cumulative Percent
Valid	Website and Miking	12	60.0	60.0
	Leaflet and Billboard	8	40.0	100.0
	Total	20	100.0	

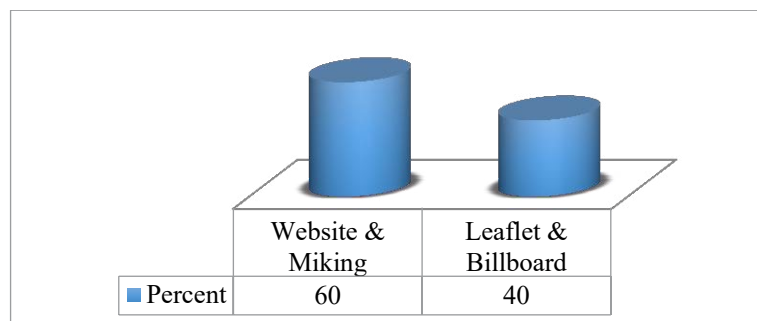**Table 18: Means of Informing Citizens about E-Governance**

Figure 18: Means of Informing Citizens about E-Governance
Source: Field Survey, 2021.

Table 18 and Figure 18 indicate that 60 percent (%) of the total respondents use websites and miking to inform the city people about e-governance. On the other hand, 40 percent (%) of the respondents use leaflets and billboards to inform the city people about e-governance.

Present Status of E-Governance Services in RCC
The following table shows the present status of e-governance services in RCC.

E-Services in RCC	Frequency	Percentage	Implemented	Fairly Implemented	Not Implemented Yet	On the Way to Implementation
EBRIS	13	100	13			
SARMS	3	100	3			
E-Waste management	3	100			3	
E-Tender	2	100		2		
E-Nothi	2	100		2		
E-Revenue	3	100				3
E-Application	3	100				3
E-Death registration	3	100		3		
SMS-based information service	3	100			3	

Smart Rajshahi app	2	100	2
Web portals	2	100	2

Table 19: Present Status of E-Governance Services in RCC
Source: Field Survey, 2021.

The above table directs that 13 respondents (100%) think the EBRIS programme is implemented in RCC. 3 respondents (100%) also opine that SARMS is implemented. On the other hand, 3 respondents (100%) reveal that the status of e-waste management is not implemented yet. According to the view of 2 respondents (100%), it is shown that the current status of e-tender is fairly implemented. According to the view of 2 respondents (100%), the current status of e-nothi is also fairly implemented. 3 respondents (100%) opine that the status of e-revenue is on the way to implementation. From the view of 2 respondents (100%), it is obvious that the present status of e-application is still on the way to implementation. 3 respondents (100%) say that e-death registration is fairly implemented in RCC. And the other 3 respondents (100%) opine that the status of SMS-based information service is not implemented yet. According to the view of 2 respondents (100%) the status of 'Smart Rajshahi App' has not been implemented yet. At the end, 2 respondents (100%) say that the status of web portals is implemented fairly in RCC.

Is EBRIS a Successful Programme in RCC?

The opinions of the respondents about the successfulness of EBRIS projection in RCC are shown in the following table and figure.

		Frequency	**Percent**	**Cumulative Percent**
Valid	Agree	10	76.9	76.9
	Neutral	3	23.1	100.0
	Total	13	100.0	

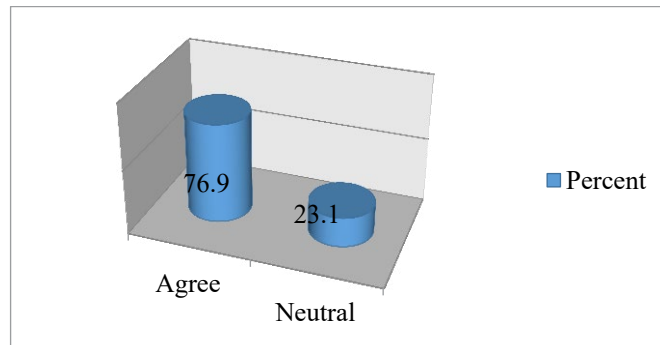**Table 20: EBRIS Is a Successful E-Governance Programme in RCC**

Figure 19: EBRIS Is a Successful E-Governance Programme in RCC
Source: Field Survey, 2021.

In the above table and figure a large portion of the respondents (76.9%) think EBRIS is the most successful e-governance project in RCC yet. On the other side, 23.1 percent (%) of the respondents are in a neutral position and they did not like to pass any comments on it.

Has Child Marriage Been Reduced after Running EBRIS Project?

The thinking of the respondents about the reduction of child marriage after running EBRIS programme in RCC are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	9	69.2	69.2
	No	4	30.8	100.0
	Total	13	100.0	

Table 21: Child Marriage Has Been Reduced after Running EBRIS Project

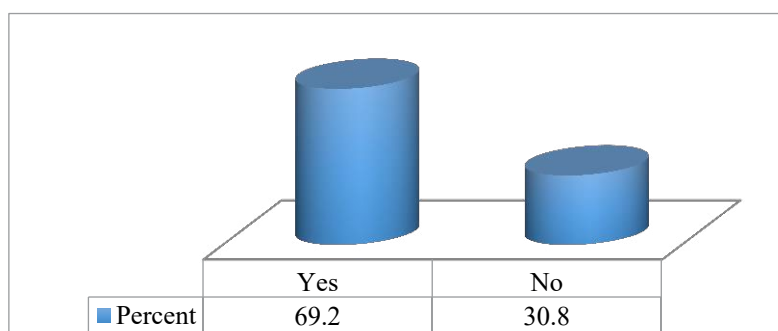|	Yes	No
■ Percent	69.2	30.8

Figure 20: Child Marriage Has Reduced after Running EBRIS Project
Source: Field Survey, 2021.

According to the above table and figure, it can be said that a major portion of the total respondents (69.2%) think child marriage in city area has been reduced after running EBRIS programme. And 30.8 percent (%) of the respondents opine that child marriage in city area has not been reduced after running EBRIS programme.

Necessity of Online Birth Registration
The following table and figure show the respondent's views on the necessity of online birth registration.

		Frequency	Percent	Cumulative Percent
Valid	For smart NID card	12	92.3	92.3
	For e-passport	1	7.7	100.0
	Total	13	100.0	

Table 22: Necessity of Online Birth Registration

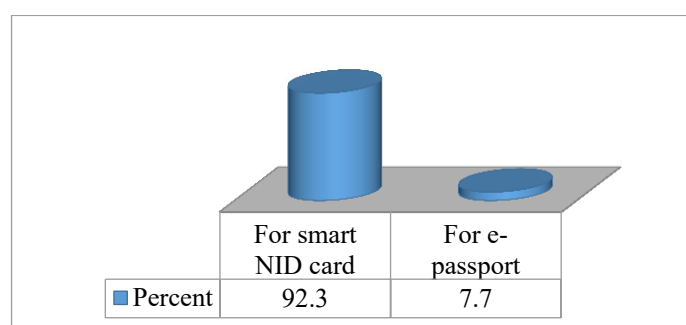|	For smart NID card	For e-passport
■ Percent	92.3	7.7

Figure 21: Necessity of Online Birth Registration
Source: Field Survey, 2021.

Table 22 and figure 21 indicate that a large portion of the total respondents (92.3%) think that online birth registration is needed for every child for getting their smart NID card. Only 7.7 percent (%) of the respondents think that it is needed for every child for getting e-passport.

Rights of Street Children in Online Birth Registration
The respondent's views on the rights of street children in online birth registration are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Have not	9	69.2	69.2
	No response	4	30.8	100.0
	Total	13	100.0	

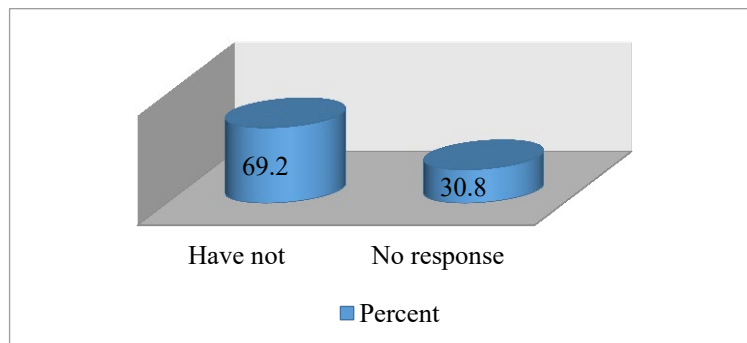**Table 23: Rights of Street Children in Online Birth Registration**

Figure 22: Rights of Street Children in Online Birth Registration
Source: Field Survey, 2021.

13 out of the 13 respondents put their views in the above table and figure on the rights of street children in online birth registration. Among them, 69.2 percent (%) opine that the street children have no right in online birth registration. On the other hand, 30.8 percent (%) respondents have no response in this regard. It is remarkable that none of the respondents put their opinions on the rights of the street children in online birth registration.

Protection of Child Rights by Successful Implementation of EBRIS

The perceptions of the respondents on protecting child rights by successful implementation of EBRIS are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	11	84.6	84.6
	No	2	15.4	100.0
	Total	13	100.0	

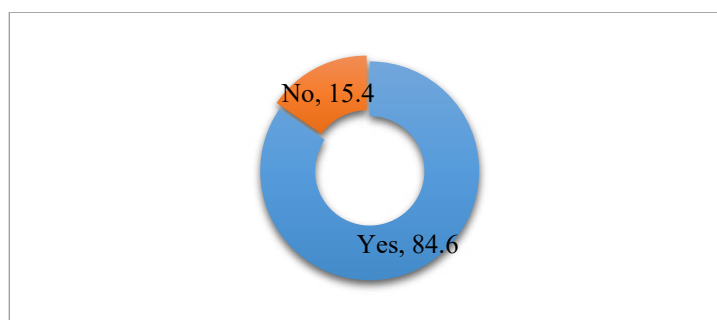**Table 24: Protection of Child Rights by Successful Implementation of EBRIS**

Figure 23: Protection of Child Rights by Successful Implementation of EBRIS
Source: Field Survey, 2021.

The above table and figure indicate that majority respondents (84.6%) think, the successful implementation of EBRIS can protect child rights. But a small portion of the respondents (15%) think that it is not possible to protect child rights through the successful implementation of EBRIS projection.

Technical Problems Faced by RCC Authority to Control Auto-Rickshaws.

The following table and figure show the technical problems faced by RCC authority to control auto-rickshaws.

		Frequency	Percent	Cumulative Percent
Valid	Yes	2	66.7	66.7
	No	1	33.3	100.0
	Total	3	100.0	

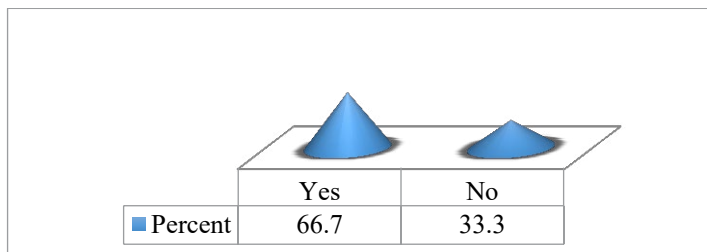**Table 25: Technical Problems Faced by RCC Authority to Control Auto-rickshaws**

Figure 24: Technical Problems Faced by RCC Authority to Control Auto-rickshaws
Source: Field Survey, 2021.

It is shown in the above table and figure that majority respondents (66.7%) face some technical problems to control all auto-rickshaws centrally. On the other hand, 33.3 percent (%) of the respondents don't face any technical problem in this regard.

Will SARMS Reduce Traffic Jam in City Area?
The respondent's views on the reduction of traffic jam in city area by SARMS are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	2	66.7	66.7
	No response	1	33.3	100.0
	Total	3	100.0	

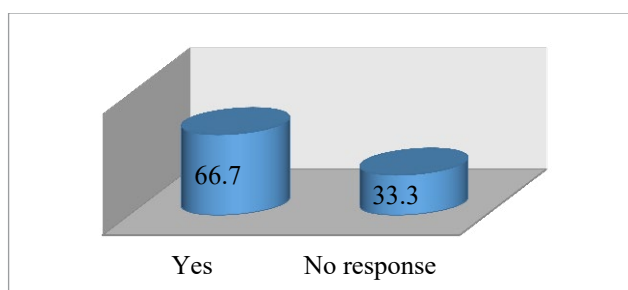**Table 26: SARMS Reduces Traffic Jam in the City Area**

Figure 25: SARMS Reduces Traffic Jam in City Area
Source: Field Survey, 2021.

The above table and figure express that most of the respondents (66.7%) think SARMS is helpful to reduce traffic jam in RCC area. And one-third of the total respondents (33.3%) have no response in this regard.

Has the Daily Income of Auto-drivers been Declined Under SARMS?
The opinions of the respondents about declining the daily income of auto-drivers under SARMS are shown through the following table and figure.

		Frequency	Percent	Cumulative Percent
Valid	Yes	1	33.3	33.3
	No	2	66.7	100.0
	Total	3	100.0	

Table 27: The Daily Income of Auto-drivers Has been Declined under SARMS
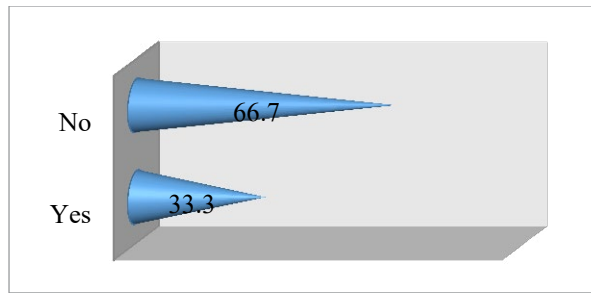
Figure 26: The Daily Income of Auto-drivers Has Decline under SARMS
Source: Field Survey, 2021.

Table 27 and figure 26 reveal that 33.3 percent (%) respondents inform that the daily income of the auto-rickshaw driver has been declined under SARMS. But the majority of the respondents don't know about it.

Problems Faced by Auto-drivers without Renewing Their Smartcard

The following table and figure show the respondent's views on problems faced by auto-drivers without renewing their smartcard.

		Frequency	Percent	Cumulative Percent
Valid	License will be cancelled	2	66.7	66.7
	No response	1	33.3	100.0
	Total	3	100.0	

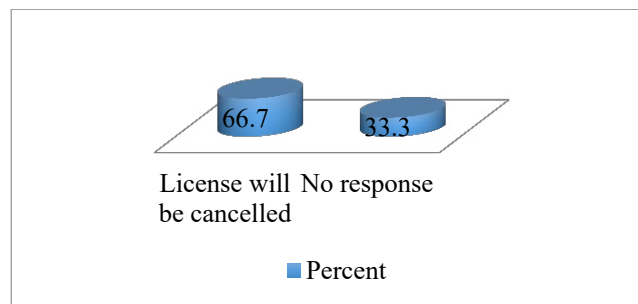**Table 28: Problems Faced by Auto-drivers without Renewing Their Smartcard**

Figure 27: Problems Faced by Auto-drivers without Renewing Their Smartcard
Source: Field Survey, 2021.

From the aforenamed table and figure, it is clearly indicated that 66.7 percent (%) of the respondents opine that if the auto-rickshaw drivers don't renew their smartcard, their license will be cancelled. On the other side, two-thirds of the total respondents (33.3%) have no response in this regard.

Findings

The implementation of e-governance at urban local government is wholly relied on the enough financial support of the national government. But through this research, it has been found that the financial support of the national government for the implementation of e-governance at urban local government is not adequate. Electricity is one of the factors for the implementation of e-governance. Though the present production rate of electricity is so high in Bangladesh, there is an outage of electricity. Without the suitable and affordable internet connectivity, implementation of e-governance is quite impossible. This research has also found that the internet connectivity is not suitable and affordable for every citizen in Bangladesh. Digital divide is a big problem behind the proper implementation of e-governance in Bangladesh which has been found through this research.

Based on the respondents' views, researchers have found the following specific findings from the field survey.

1. Unimproved ICT Infrastructure in RCC

The ICT infrastructure of Rajshahi City Corporation (RCC) is not so developed as implementing e-governance projections. There are not enough computers for the functionaries. Internet connectivity is not suitable.

2. Lack of Proper IT Training for Officials in RCC

RCC officials lack proper ICT training. Only a few of them have attended seminars or workshops on e-governance.

3. Lack of Cooperativeness of E-Service Receivers

This research has found that there is a lack of cooperativeness of e-service receivers during taking e-services from the e-service providers.

Recommendation and Policy Implication

To accelerate the approach of implementing e-governance at urban local government, researchers have made some recommendations on the basis of research findings.

The implementation of e-governance is largely dependent on adequate financial support. And the yearly budget of City Corporations is relied on the national or central government. The budget of City Corporations provided by the central government for the implementation of e-governance is not as sufficient as they need. Therefore, the central government should increase the amount of budget for the proper implementation of e-governance at urban local government level.

Electricity or power is one of the vital factors for implementing e-governance. Though Bangladesh is now producing enough electricity, there is a little shortage. On the other hand, there is mismanagement in distributing electricity. Without the availability of electricity, proper implementation of e-governance is impossible. So, the national government must ensure the availability of electricity for twenty-four hours everywhere in Bangladesh to establish e-governance at urban local government level.

Without internet connection, providing and receiving e-services are quite impossible. Government should arrange sustainable internet connectivity everywhere in Bangladesh for proper implementation of e-governance. However, the cost of using the internet is now so high for the common people. Government should consider the affordable accessibility of the internet to all. Digital divide is one of the big factors behind the implementation of e-governance in Bangladesh. One study by Action Aid Bangladesh in 2020 reveals that 50 percent (%) of the households in urban areas have internet access whereas less than 30 percent (%) of the households in rural areas have not. Government should consider the digital divide between the urban and rural areas for ensuring the proper implementation of e-governance in Bangladesh.

To implement e-governance properly in Rajshahi City Corporation (RCC), researcher has equipped some recommendations for e-service providers following two broad categories. An enriched ICT infrastructure is the prerequisite for providing e-services to the receivers. The ICT infrastructure of Rajshahi City Corporation (RCC), a leading city corporation adopting e-governance, is not so developed. It should ensure available computers to provide for its all employees with suitable internet facilities. However, The RCC authority should develop its overall ICT infrastructure for providing better e-services to its citizens. Majority e-service providers of RCC are facing several problems in time of providing the e-services to its citizens for the lack of proper training. For ensuring better e-services, RCC authority should arrange proper ICT training for all employees specially who are directly involved in providing e-services.

Conclusion
Based on the empirical findings, it can be summarized that most of the e-service providers (70%) of Rajshahi City Corporation (RCC) have heard the term e-governance. But they have a little knowledge about e-governance. According to the view of 65 percent (%) e-service providers, they have no formal training on IT. And 60 percent (%) providers do not take part in any seminar or workshop on e-governance. Therefore, majority e-service providers of RCC are facing several technical problems during providing e-services.

It can be concluded with a famous quotation of William Shakespeare from his Julius Caesar that "Where I did begin, there I shall end" [20]. In the course of this study, it has been observed that the world wide impact of modern technology on governmental activities is increasing day by day. E-governance has brought a revolutionary change in the governance issue in lieu of traditional form of governance. The upheaval of e-governance has made people's daily life more relaxed. E-governance is the key mechanism to transform traditional governance into modern and digital governance. There are some limitations behind the implementation of e-governance in Bangladesh. Such as unprepared ICT infrastructure, outage of electricity, lack of internet connectivity, lack of proper ICT training of e-service providers, and awareness problem of e-service receivers and so on. To confront these limitations and ensure successful implementation of e-governance, the government should take proper initiatives. At the same time, concerning bodies and related people or citizens with e-governance should cooperate to the implementation of e-governance at the urban local governments as well as for establishing e-governance at the national level. It is a matter of pleasure that the current situation of e-services in Rajshahi City Corporation (RCC) is very progressive. Smart auto-rickshaw management system and smart Rajshahi app both are the unparalleled initiatives of RCC. Moreover, RCC has reached a leading position in e-governance adaptation by introducing online birth registration. Zunaid Ahmed Palak, the State Minister for Information and Communication Technology (ICT) of Bangladesh, predicts that 100 percent (%) of the citizen services will be brought online by 2025 [21].

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