

APPLICATION OF E-GOVERNANCE IN EDUCATION SECTOR TO ENHANCE THE QUALITY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT IN BANGLADESH

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Abstract

Education is one of the most important factors in achieving the development goals of any country. In Bangladesh, Education has seen massive growth in recent years due to the application of e- governance in this sector. Information and Communication Technology initiatives help to provide of world-class education. The application of e-governance in education sector has led to a new broader of innovations. The purpose of this study is to examine how and to what extent e-governance enhances the quality of education as well as human resource development. This study is conducted following both qualitative and quantitative research approach based on primary and secondary data. To validate research data sample survey method is used in this study. Semi-structured questionnaire has been applied to collect data from the respondents through face to face interview. 120 Sample populations have been selected from the teachers, students and officials of Shahjalal University of Science and Technology, and Government College, Sylhet, Bangladesh, taking sixty from each institution through systematic sampling method. Secondary data collected from different published materials like books, articles, reports by academics and regular internet surfing has been maintained to serve the purpose of the study. Study findings reveal that in spite of having some limitations, information and communication technology contributing a lot to improve the quality of education and to develop human skills making them fit for the competitive global market. Researcher believes that, the study findings will hopefully be a guideline for future researchers and academics for further study on the very issue from different angle calling attention to policy makers in this regard.

Keywords: E-Governance, Education Sector, Human Resource Development, Quality Education

Background of the Study

Education in Bangladesh has been recognized as a priority sector by all governments since the independence of the country. Bangladesh education system is characterized by co-existence of three separate streams. The mainstream happens to be a dialect based secular education carried over from the colonial period. Religious system of education and education based on use of English are the other two streams. The model of education system in Bangladesh is modeled after the British education system. So, the education system was backdated and could not work effectively to meet the demand of the country people. The teachers teaching style, curriculum, examination system as well as the whole education system was not updated and effective to face the challenges of electronic governance. The Modern world is now around with the idea of e-Governance and all countries want to go ahead with this concept to ensure development in global context. Although, Bangladesh is not fully ready for walking with the concept of e-Governance, it is now become a talked topic in our country. All the sectors of the country have taken some steps, policies and strategies for adapting e-Governance to ensure good governance. Education is considered as one of the most important sectors for the development of this country. Taking this issue into account Bangladesh government started ICT based education and management system in every educational institution, especially in secondary and higher education. Though, these institutions of Bangladesh have greater opportunity to show a remarkable performance in case of processing and publishing results, updating curriculum, pedagogy and teaching techniques for making more skilled manpower and transforming education sector more transparent, accountable and time oriented including the enhancement of its quality; it is facing some difficulties at the rudimentary stage. There is no prohibition of regular ICT training for the faculties, officials and students. Besides, they forget the theme or practical experience gained from training as it is arranged in a large gap of time.

Most of the officials and staff have no clear and precise idea about e-governance. Insufficient funds and shortage of skilled manpower are the two noticeable barriers to operate the ICT. The computer operator gets very low salary and the fund allocated for repairing the system and instrument is very low. Furthermore, the number of technical staff is limited and the system supporting instruments like, generator, ups and ips are not updated to continue the work having no electricity. Besides, in Bangladesh there have “disparities” between haves and have-nots are ever increasing, introducing

ICT in the governance mechanism faces the challenges of ensuring equitable access, to e-Governance services by all strata of the society. But the social aspects like lack of literacy, weak basic education standard, brain drain of ICT skilled human resources cause challenges to e-Governance application in education sector as well as the country. Furthermore, the legal framework regarding ICT is not maintained properly in our country.

Scope and Significance of the Study

Bangladesh is one of the most densely populated countries in the world. There is a large gap between the official and actual rate of literacy in Bangladesh. So, distance education is an important alternative for educating mass people in Bangladesh for many socio-economic reasons. The study brings an idea about the present adapting and application pattern and quantity of e-governance in education sector in Bangladesh. Nowadays e-governance is a buzzword to the development scholars and to the conscious people in the world. Information and Communication Technology (ICT) has been looked at as a tool for solving problems in developed and developing countries (Mittal, et.al.2006). Moreover scholars illustrated that e-Governance is the use of Information and Communication Technology (ICT) to support good governance. The purpose of implementing e-governance in education sector is to enhance sustainable education system in Bangladesh.

The recent advances in communication technologies and the Internet provide opportunities to transform the relationship between governments and citizens in a new way, thus contributing to the achievement of good governance goals.

The use of information technology can increase the broad involvement of citizens in the process of governance at all levels by providing the possibility of on-line discussion groups. In addition, the transaction costs can be lowered and government services become more accessible.

In modern world, no country can reach in the apex of development without the application and implementation of e-governance in the development process. But unfortunately, this sector got no considerable attention yet from the policy makers and academics regarding the importance of the application of ICT in education sector. Though, a very few study was done in small scale and no one of them focused on the issue from sociological standpoint. Moreover, considering the issue from development perspective it has been an academic interest to find out the usefulness and underlying causes behind the effective application of e-governance in education sector.

Furthermore, the study findings will hopefully be a guideline for future researchers and academics opening up the horizon of original

knowledge which is assumed to pave the way for further study on the very issue in a different angle calling attention to policy makers in this regard to promote the quality of education and human resource development in Bangladesh.

Objectives of the Study

The main objective of this study is to investigate how application of e-governance in education sector fostering the quality of education and transforming students as human resources to meet the challenges of globalization.

To obtain the broad objective the study makes an attempt to address the following research questions:

1. What are the types of e-services practiced in education sector for providing transparent, accountable, time oriented and low cost education to ensure human resource development?
2. Why is the education sector not capable to apply and implement ICT in the full swing to promote good governance in Bangladesh?
3. What are the strategies to make education sector more effective through the application and implementation of e-governance in order to enhance the quality education?

Review of Relevant Literature

Some significant literatures related to the research study were reviewed to show the knowledge gap from actual focus of this study.

Most e-government projects within developing countries employ high-technology intervention whereas citizens are not ready for this. There are successful projects which took low end route. This paper examines one such project to find out the reasons behind its success. The research concludes that stakeholders' participation is the driving factor for success. The major issue is not IT, but an understanding between the citizen population and their complimentary governmental entity, which acts as the critical factor for triumph in e-government. Due to the active participation of stakeholders, both the birth registration and immunization rate have increased where concurrently other unforeseen benefits were realized; such as image enhancing of public and elected officials, use of data for school enrolment and decision making for vaccine management for society as a whole (Akther, Onishi and Kidokoro,2007).

It is considered whether information technology will simply support and amplify conventional classroom practice or whether it will have, in terminology, a “transformative” effect on of the curriculum and pedagogy.

The study begins to explore how teachers will use technology by imagining what the technology environment surrounding them will look like. The quality and power of technology will continue to increase to the point where it will be able to deliver practically anything that can now be imagined. Moreover, technological advances will make powerful computing tools available to almost everyone at affordable prices. Outside of schools, it can be expected that educational and training uses of information technology will be common place (Hasan, 2003).

The widespread introduction of ICT education in Public and private educational institutions is a pre requisite for producing skilled manpower. In all levels of education like- primary education, secondary education, higher secondary education, universities etc. the facilities of ICT and computer aided education must be provided. Bangladesh Institutes of technology and Collages, both in the public and private sectors shall be strengthened to produce ICT graduates. The management system of education board and institutions must have training programs, diploma course, and computer related course. The civil society, NGO's, Private institutions, Donor agencies must help to adopt this (ICT Policy of Bangladesh, 2005).

E-learning has enormous prospects for Bangladesh. For successful deployment of e-learning in Bangladesh as a modern teaching method, at first it is needed to measure our readiness both quantitatively and qualitatively. Government, Industry, Education and Society are identified as the key components in the first level of e-Governance. For this Bangladesh must be followed the path already taken by the high ranked e-Governance ready countries (Karmakar, 2005).

E-governance initiatives in most countries promise a more citizen-centric government and reduce operational cost. Unfortunately most of these initiatives have not been able to achieve the benefits claimed. Often the reason for this failure is a techno-centric focus rather than a governance-centric focus. The paper explores the necessary attributes of a governance-centric initiative under the banner “excellent e-governance and describe a methodology for ensuring such excellence in e-governance implementations”. Excellence (or governance-centralism) in e-governance requires the initiative to be effectiveness-driven and not merely efficiency-driven. This will require the initiative to be led by “good governance” driven goal/purpose: additionally, the initiative must be outcome-focused (Saxena, 2005).

The use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with

business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions (World Bank, 2002).

Conceptual Framework

For better understanding the concept of the study, a conceptual framework has been developed on the basis of literature review and considering the facts of research objectives and research questions.

The conceptual framework of the study is shown in the following figure:

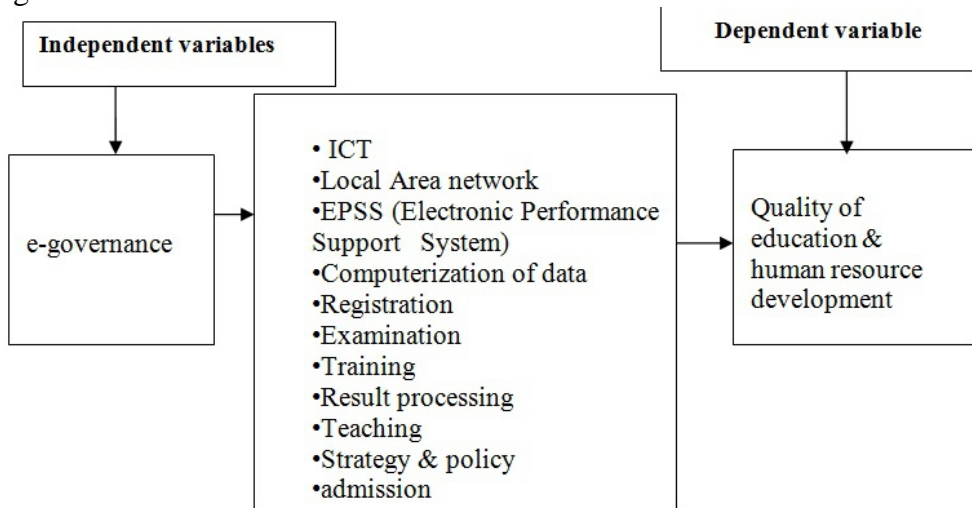


Figure-1: Conceptual framework of the study

e-governance is the civil and political conduct of government using information and communication technologies (ICT) by which citizens can be empowered with greater access to services and more flexible and effective means of participating in government, leading to improved citizen government interaction.

Education is any act or experience that has a decisive effect on the mind, character or physical ability of an individual. Education is also a crucial device by which society intentionally transfer its accumulated knowledge, skills and values from one generation to another. Human resource development is the frameworks for helping employees develop their personal and organizational skill, knowledge and abilities. The most vital component of human resource development is empowering people with knowledge and skill.

Theoretical Framework

In this study constructivist learning theories have been applied to show that knowledge is actively constructed by learners rather than transmitted by the teachers; learners are active knowledge constructors rather than passive information receivers (Jonassen, 1991). Both cognitive and social constructivist learning theories give strong support to the design of pedagogical and social activities respectively. Based on cognitive constructivism, pedagogical design must satisfy and support the needs of learning intentions of individual learners. In addition as teachers are facilitators in a constructivist learning environment, the pedagogical design must enable teachers to include students during a learning process. And social constructivist learning theories enable to provide safe and comfortable learning environment in which students feel interest to share information and collaborate with others. Of course, this theories support strongly for the pedagogical and social design of an effective learning environment to enhance the education quality and human resource development.

Materials and Methods

To find out the objectives survey research design has been applied in this study. It is an exploratory descriptive research. This research is conducted following both qualitative and quantitative research approach based on primary and secondary data. To validate research data methodological triangulation is applied for the collection of field data. Semi-structured (both open and close ended) questionnaire has been applied to collect data from the respondents through face to face interview. Besides, an in-depth interview guide and observation have been considered in this study as the most important and befitting data collection tools which have enabled the researchers to have more experience and practical knowledge from participating in the real situation of e-governance in education sector regarding its problems and prospects in Bangladesh. Population is the entire group of items or individuals in a study. One hundred and twenty sample populations have been selected from the teachers, students and officials of Shahjalal University of Science and Technology and Government College, Sylhet, Bangladesh, taking sixty from each institution through systematic sampling method. Secondary data collected from different published materials like books, articles, reports by academics and regular internet surfing has been maintained to serve the purpose of the study. The collected quantitative data have been presented in graphs and tables and analyzed using statistical tools. And qualitative data have been analyzed through thematic analysis process.

Structure and Management of Education System in Bangladesh

In Bangladesh education has three major stages-Primary, Secondary and Higher education. Primary Education is a 5-year cycle while secondary education is a 7-year one with three sub-stages: 3years of junior secondary, 2years of secondary and 2years of higher secondary. Higher secondary is followed by baccalaureate level education in general, technical, technology and medical streams requiring 5-6 years to obtain a Master's degree (Development of Education, 2004).

Table- Structure of the Education System in Bangladesh

ISCED level	Name	Ministry responsible
Pre-school (0)	Pre-school(3-5year)	MOPME
Primary(1)	Primary education (group 1- 5) (6- 10 years)	MOPME and MOE
Secondary First cycle (2)	Junior secondary education (group 6-8) (1 1-13)	MOE
Secondary second cycle (3)(14-1 7year)	Secondary education(grades(9- 1 6)(14- I Syeans) higher secondary education (groups 11- 12)(16-1 7 years)	MOE
Higher education(5and 6)	Higher education (1 8years on university)	UGC and national
Non- formal		MOPME

Source: EFA Global Monitoring Report, 2006

Here,

MOPME= Ministry of Primary and Mass Education.

MOE Ministry of Education

UGC=University Grant Commission

Findings of the study

93.34% of the respondents have an idea and 5% respondents have partial idea about the application of e-governance. Only 0.83% respondents have no idea and the remaining 0.83% respondents were silence in this regard (Table-1).

33.33% respondents replied that office related data and information are managed through filing system and 58.33% respondents mentioned computer for this work. Only 2.5% respondents said that traditional way is followed and the remaining 5.84% respondents preferred other systems for office management (Table-2).

76.67% respondents opined that the education related information from the government to education Board and institutions is disseminated through e-governance. They added that the educational institutions also disseminate information among the faculties and schools through e-governance.14.17% respondents replied that sometimes this system is followed and 6.66% respondents answered negatively. Only 2.5% respondents remained silence in answer (Table-3).

Major percent of the respondents said that email is the main way of disseminating information; 12.5% opined mobile to disseminate information. 12.5% gave priority on Facebook and only 2.5% respondents uttered the name of notice board as the process of sharing information among them (Table-4).

Majority of the respondents received ICT related training and 29.17% respondents received partial training for handling ICT department properly. But, 8.33% respondents did not receive any basic training related to e-governance, and the remaining 1.67% respondents gave no comment (Table-5).

65.83% respondents opined that the result of the application of e-governance in education sector is very much effective; 17.5% said it is effective and 14.17% respondents said the result is moderate. Only 2.5% respondents answered negatively saying it is not effective at all (Table-6).

52.5% respondents replied that e-governance is capable for building capacity of the students. 43.34% respondents said e-governance can partially build up the capacity. Very poor amount, which constitutes 4.16%, argued that e-governance is not essential for capacity building of the students (Table-7).

In response to the question of ways of e-governance activities to improve skills and capacity of students and teachers 33.33% respondents replied that it develops creativity; 19.17% respondents opined that it improves the understanding level, and 23.33% said it introduces them with practical ground and the remaining 24.17% mentioned others in this regard (Table-8).

Major percent of the respondents can have easy access to the education related website to see government policies and strategies regarding education. 24.17% respondents faced different types of difficulties to access. Only 2.5% respondents answered negatively saying that they cannot access the website, and the remaining 1.66% respondents have no comment in this regard (Table-9).

25% respondents of this study have access to computer and internet in their offices at department or at home, where 60% of the respondents have internet access with their personal Computers or I PAD. But, 10.83% respondents can have the opportunity to browse internet in their laboratories and seminars. Only 4.17% respondents go to cyber café to get ICT facilities (Table-10).

Most of the respondents strongly recommended in favor of application of ICT in education sector for transforming students as human resources. Only 5% respondents said it is useful, where 0.83% respondents said against e-governance to make students as human resources (Table-11).

65% respondents opined that the application of e-system in admission, registration, result processing and publishing and other activities of education totally changing the existing scenario of education system in Bangladesh. 32.5% said education system changing partially and only 2.5% replied that the scenario is not changing (Table-12).

47.5% respondents replied that application of e-governance can reduce corruption and ensure the accountability and transparency in education sector. 15.84% respondents said it is sometimes effective and 35.83% respondents opined that ICT cannot ensure accountability and transparency in education sector. One of the respondents remained silence in this regard (Table-13).

Qualitative Analysis

In response to the question of the purpose of using ICT most of the respondents answered the same way. Searching guidelines of the courses with updated information on the internet, preparing the class lectures, seminar and thesis presentation, making experiments in the laboratory, preparing and printing exam questions, statistical analysis and publish exam results, communicating with students and colleagues and finding scholarship and admission information in abroad for higher studies are the main purpose of using ICT. Here it is clear that through the application of ICT teachers are mostly trying to develop and update the class lectures making the students more intellectual and to improve the education quality.

Majority of the respondents said that e-governance is very effective to maintain data and data updating website can be downloaded without any cost. The communication system has become very easy and fruitful. Almost hundred percent respondents replied that ICT facilitates them to communicate easily with each other in a very short time and with low cost. Online registration and admission is a land mark in the history of Bangladesh education system. Students can complete their registration and admission process through online without having physically present there. They are also able to pay any type of fees through online payment system. They get their result in the website of the educational institutions quickly as the result is processed and published online. Now-a-days the education board of Bangladesh publishing the result through website and students can get it through mobile message or internet sitting any place and any time. Both teachers and students have the opportunity to participate in national and international conferences with the support of ICT.

Maximum of the respondents replied that monitoring and evaluation activities of the office done through traditional filing system notice and letter etc. But, ICT is more effective to monitor and evaluate the activities of the

offices. It can be done through close circuit camera, video camera and other technology.

They added that the development of the institutions mostly depends on proper monitoring system and the annual confidential report would be more transparent and impartial.

Maximum of the respondents opined that the budget of Government for ensuring e-Governance in education sector is not adequate enough and it is not properly utilized due to political influence, nepotism and corruption. Although, most of the respondents received basic training for handling ICT related activities, but most of the respondents opined that there has not maintained any regularity in case of providing training for handling ICT and developing their skill and knowledge.

Discussion

All types of respondents came to a single platform that e-governance or ICT provides a new dimension in the field of education. ICT can create a student friendly environment in every educational institution which fosters the critical thinking ability of the students. It also concentrates students focus on constructive and higher level concepts rather than less meaningful tasks. E-governance enables students to communicate, share and work collaboratively at any time and any place of the world. They can participate on a topic discussion with the students around the world through teleconference and can have the opportunity to analyze the problems along identifying the strategies to develop concepts.

ICT develops students' new understanding capacity in their areas of learning (Chai and Tsai, 2010). Through ICT students can find out more constructive solutions to different types of learning inquiries. Moreover, students can easily access all types of advanced published and unpublished materials regarding relevant vocabulary building activities, games related reading skills and more with ease through internet. E-governance acts as an important tool both for the students and teachers to find out the way of making the topic interesting and easy way to understand the concepts with reference to practical example. With the use of ICT students can be inspired for self-directed learning and now they are used to associate in meaningful use of computers. They can have also access different sources of information and data to evaluate the quality of learning materials. In addition to this, students become more capable working by themselves and with others through the support of ICT. Teachers can also authorized students to complete specific tasks with peers or in groups. For example, group or individual seminar presentation with multimedia projector and other modern equipment can enhance their confidence and make them capable of taking risk and learning from the mistakes. Furthermore, students can record

their voice using good software to evaluate themselves which is considered as one of the most important prerequisites for self-development. The whole learning process enriches students learning skills and broadens their knowledge which can improve both teaching and learning quality.

In response to the question how e-governance contributing to make students as human resources and to improve the quality of education in Bangladesh, the respondents replied that the application of Information and Communication Technology enable institutions to decrease the rate of unfair means in the exam hall. It makes learners able to study more to be self-dependent and enhances their ethical issues which are considered as the most important elements of development.

The concerned authority always search the contemporary development issues through the global education website, and disseminate the constructive ideas with the students in their curriculum and by their trained class teachers, considering the demand of global market which is the foremost prerequisite of ensuring quality of education and human resource development. Furthermore, Ministry of education introduced website for the students and unemployed educated persons. Browsing this website the student can get admission and obtain scholarship in reputed foreign educational institutions. They can also know the updated information of examination and can have downloaded the learning materials without any cost. The government sometimes opens domestic scholarship for the students through online. The students can apply for the scholarship filling up the required form within a short time and low cost process only for the blessings of internet. For unemployed populations there are several website through which they can know the requirements of services and apply for the post easily; thus, ICT helps to reduce the unemployment rate and develops human skills.

Moreover, under the project of enhancing education quality, government already provide computer in every schools with internet connection even at the remote areas of the country. Some educational institutions in urban areas of the country are providing lesson to the students in classroom through multimedia projectors, CD, DVD, and internet surfing with practical knowledge breaking the traditional method of getting by heart. Also, the distance learning is now at the close at hand through the application of e-governance (Asaduzzaman and Jinia, 2011). The students can learn and get diploma or certificate degree through online education system from any universities or colleges of the world.[]

Disseminations lead to development and e-governance promotes the quality of education and develops students' skill to make them fit for contributing in the field of development. In response regarding to the steps for providing online and other modern education facilities to the grassroots'

levels, the respondents said that they use e-SIF, e-FF, HF, e-TIF web portal for the welfare of the students including online admission, online result processing and publishing. In reply regarding the problems to implement e-Governance, the respondents said that internet and electricity are not available, lack of skill manpower, lack of logistic support, misuse of IT equipment's etc. are the main problems. They also add that it can be effective at rural area through electrification of the village, ensure proper training and logistic support, ensure internet facilities, recruiting IT specialist in every school and provide adequate IT equipment. To enhance the quality of education and human resource development the officials give some suggestions. They said, there should be arranged IT training in regular basis, trained up with new technology, mind set up for using e-service, create awareness about ICT, allocate sufficient fund to buy IT equipment, ensure uninterrupted power supply and internet facilities should be ensured in every sphere of education.

Education is always an integrated demand of society. The education board is one of the significant parts of education system in Bangladesh. So, conduct a study on education board we can make an overall view of full Education Sector. Information and Communication Technology (ICT) has been increasingly used to develop the services and management system of the government services to the Citizens. It is required simple, moral, accountable, responsive and transparent e-Governance application to cope up with the challenges of globalized world.

93.34% respondents think that e-Governance can mitigate corruption and ensure accountability and transparency of the officials (Table- 12). Data and Information processing is very easy through computerization of data which is an application of e-Governance.

Among the respondents 90% believed that it is easy to maintain all data through computerization of them. They also think that education system management will be more effective and efficient and service oriented when data transformation and flow of information shift from top to bottom by using e-MIS, e-SMS, MMS, Multimedia etc.(Table-10). In the present situation, the officials and workers are not more concerned about e-Governance. The Management of Education System has arranged training and education facilities of IT sector for their officials. In this context maximum portion of the respondents think that, it is necessary to provide IT training regularly. IT training can also help to increase skill and knowledge of the officials or personnel. But, majority of the respondents claimed that the institution does not provide training of e-Services to all the line and staff.

Communication through Internet, e-mail, SMS, MMS, MIS, LAN (Local Area Network) etc. can make easy the interaction and integration level as well as communication level. These are the mechanisms of e-

Governance system. Examination, Registration, Admission etc. can be more uncomplicated by applying e-Technologies. For result processing technologies make an easier way. Through software, results are made in very short time and correctly. So, it makes the work easier and saves the time. e-System in admission, registration and result processing system can change the scenario of present education system. Considering the effectiveness and efficiency of education sector government take policy for online admission and registration and implement the policy through the education Board. 100% respondents stressed the e-governance as the prime factor to prepare students as human resource, e-Governance related policies and strategies can make management strong, effective and efficient. But the personnel and other employees have no sufficient knowledge about the proper application and implementation of e-governance. Managing and disseminating information is essential in all organization to achieve the desired ends of that organization and proper information management increases employees' efficiency and effectiveness. But in our country most of the officials in educational institutions manage and preserve data and information through filing system or traditional way.

Only 58.33% employees manage information through computer. Government arranges training programs to the officials about e-Governance; but ICT department of the institution is somehow reluctant to provide training for improving the key idea of ICT and their proper utilization for enhancing the quality and quantity of education leading to human resource development with practical knowledge. Using CC-camera and other management tools of monitoring and supervision can be made a management accountable and transparent. At present in most of the educational institutions they do not use CC-camera for monitoring the activities of the officials; and half of the respondents in this regard said that they have a plan for using CC-camera in the near future to adapt the global education quality for the greater welfare of the students and the nation. As the e-Governance application can remove corruption and made the management accountable and transparent, e-Management is indispensable for ensuring educational quality and transforming human being as resource. Human Resource Development (HRD) is the frameworks for helping employees develop their personal and organizational skills, knowledge, and abilities. Bangladesh, a developing country with a large number of population is inflicted with chronic poverty, political turmoil accompanying with natural calamities. And most of the people of this country live in rural areas and the total development of the country mostly depends on the development of these villages.

So, enhancing the quality of education in the remote corner of the country, importance of the application of e-Governance knows no bound.

Because, ICT is the only means to provide instant and practical as well as time oriented educational training and information for the rural community who are the building blocks of the sustainable development of the country. But, in the era of globalization we are far behind to practice e-governance due to lack of effective education policy and shortage of machineries and trained experts as well. So, in order to keep pace with the challenges of digital world, application of e- governance in education sector is now the demand of time to improve students' skill and enhance the quality of education. Finally, application of e-Governance increases the management capabilities of the educational institutions which would thus enhance the quality of education as well as human resource development.

Limitations

To conduct and complete the study we have faced a number of limitations. Such as:

- As a young researcher, it creates difficulties to conduct a research work due to lack of skill, knowledge, and experience. This was happened for personal lacking, time limitations and some other relevant causes.
- We have faced greater problems due to shortage of necessary and relevant books, journals and written documents in various libraries and educational institutions regarding the study.
- Due to lack of proper knowledge about the application of e-governance the respondents were sometimes unwilling to provide necessary information. As a result, it was very much difficult to explore the real situation.
- The respondents did not want to answer the whole questions, because they were busy in their professional and routine work.
- Wider concept made it difficult to cover the whole area.
- It was a lengthy process to take permission from the authority. We had to maintain formalities to collect data from the above mentioned public university and government college.

Concluding Remarks with Policy Strategies

The planning for efficient administration of educational institutions, increasing Global communication skill, to achieve the world class standard it is necessary to have an improved Collaboration and access to information available in all the parts of the world. It is possible only by introducing IT in Educational Sector with e-governance as a security for maintaining standard. Today the IT has become an integral part of life of the people in the world. It is the time to applying the skill for the betterment of educational system as well. The e-governance needs security for smooth information flow, best practice database and enhanced capacity for information analysis etc.

Government should support by enacting favorable legislations and updated amendments for maintaining standards in the educational process and improvements in the related field. It requires completely new infrastructure, procedures, policies and working skills for producing and collecting online information. With the advent of ICT, electronic governance is an emerging trend to re-invent the way the government works, becoming a new model of governance. Such a comprehensive and integrated system can also enable authorities to analyze the performance of one of the best performing institutes and compare it with other schools and colleges to identify the gaps. Also, the system can obtain feedback from students to modify course curriculum if deemed appropriate by the authorities.

This will allow all the low performing schools and colleges to reduce the gap with better performing institutes. It will be help in the betterment of the higher education in the country and increase the number of employable students. In view of the present findings and the discussion the following recommendations are made:

1. Computer should be used for data processing and preserving.
2. Make use of internet available in the management system for communication, interrelation, interdiction etc.
3. ICT department should arrange training regularly.
4. One stop crisis center must work properly.
5. Computers in rural school have a secondary impact on making rural people familiar with e-Governance.
6. Recruit an IT specialist for every institutions of the education sector.
7. Provide sufficient financial resources for upgrading e-Governance by Government.
8. Produce more power and supply appropriate electricity to all over the country, especially at grass-root level.
9. Using multimedia, CC-camera in the examination hall and office room for supervision and evaluation of the students and employees.
10. Constructive legal framework should be established for applying e-Governance properly in education sector.
11. Strengthening the ICT sector of education system in Bangladesh.
12. e-governance in Bangladesh must be rolled out a set vision and objectives.

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Appendix List of tables

Table-1: Idea about application of e-governance

Opinion of respondents	Number of respondents	Percentage %
Yes	112	93.34
Partial	6	5
No	1	0.83
No comment	1	0.83
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-2: Managing office related information

Office management system	Number of respondents	Percentage %
Filling system	40	33.33
Computer	70	58.33
Traditional way	3	2.5
others	7	5.84
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-3: Disseminate information through e-governance

Opinion of respondents	Number of respondents	Percentage %
Yes	92	76.67
Partial	17	14.17
No	8	6.66
No comment	3	2.5
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-4: Process of disseminating information

Disseminating process	Number of respondents	Percentage %
Email	87	72.5
Mobile	15	12.5
Facebook	15	12.5
Notice board	3	2.5
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-5: Training for handling ICT department

Opinion of respondents	Number of respondents	Percentage %
Yes	73	60.83
Partial	35	29.17
No	10	8.33
No comment	2	1.67
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-6: Effectiveness of e-governance in education sector

Level of effectiveness	Number of respondents	Percentage %
Very much effective	79	65.83
Effective	21	17.5
Moderate	17	14.17
Not effective	3	2.5
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-7: e-governance for capacity building of the learners

Opinion of respondents	Number of respondents	Percentage %
Yes	63	52.5
Partial	52	43.34
No	5	4.16
No comment	0	0
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-8: Ways of e-governance activities to improve skills

Skill development process	Number of respondents	Percentage %
Develop creativity	40	33.33
Improve understanding level	23	19.17
Practical orientation	28	23.33
Others	29	24.17
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table-9: Access to education related website for government education policies and strategies

Opinion of respondents	Number of respondents	Percentage %
Easy accessible	86	71.67
Difficult to access	29	24.17
Not accessible	3	2.5
No comment	2	1.66
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table- 10: ICT facilities of the respondents

ICT Facilities	Number of respondents	Percentage %
Computer in the Dept.	30	25
Personal computer /mobile	72	60
Laboratory and seminar	13	10.83
Cyber cafe	5	4.17
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table- 11: Application of ICT to make student as human resource

Opinion of respondents	Number of respondents	Percentage %
Strongly recommended	113	94.17
Useful	6	5
Not useful	1	0.83
No comment	0	00
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table- 12: e-governance changing existing education scenario in Bangladesh

Opinion of respondents	Number of respondents	Percentage
Changing totally	78	65
Changing Partially	39	32.5
Not changing	3	2.5
No comment	0	00
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014

Table- 13: e-governance to reduce corruption, ensure accountability and transparency

Opinion of respondents	Number of respondents	Percentage %
Yes	57	47.5
Partial	19	15.84
No	43	35.83
No comment	1	0.83
Total	120	100

Field data Collected from Sylhet, 1st October to 25th November 2014