Khan Bahadur Ahsanullah Memorial Lecture

"Digital Bangladesh: Prospects and Priorities"

Prof. Dr. Muhammed Zafar Iqbal
Professor & Head
Department of Computer Science and Engineering
Shahjalal University of Science and Technology (SUST)

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By Prof. Dr. Muhammed Zafar Iqbal

Introduction:

The word digital has a definite meaning, it is the antonym of the word analog, i.e. if a quantity has to be expressed only in digits we call it digital. We do not need to explain Bangladesh, it is our beloved country. We did not get our independence through diplomatic discussions and negotiations, we had to earn it through a bloody armed struggle with the cruelest army on earth. So it is not surprising that our generation has an unusual affection for this country. When we add the word *Digital* in front of *Bangladesh* to get the phrase *Digital Bangladesh*, all of a sudden it does not mean two separate words any more, it has a completely new meaning.

The interesting thing is, there is no end to the interpretation of this phrase, everyone explains *Digital Bangladesh* in his or her own way. Since this phrase was first coined by the Grand Alliance in their election manifesto, we should first try to see what they actually meant. Only then we can have our own explanation and interpretation. To do that, probably one of the best source is the inaugural address of prime minister Sheikh Hasina on 31 October 2009, at the training workshop of digital Bangladesh and e-governance. In her inaugural speech her exact words were: "We want to create a Digital Bangladesh. Using information and communication technology properly we want to establish Bangladesh as a prosperous, modern and beneficial country." If we stop right here then we may have an idea that the meaning of Digital Bangladesh is the proper use of Information and communication technology in our country - the more we can use it the more digital we are. But interestingly our honorable prime minister did not stop at only Information and communication technology, she continued to add "Some of us have a wrong idea about this. Digital Bangladesh does not mean the use of only computers everywhere. Digital Bangladesh is a modern philosophy of using the appropriate technology in every sector like education, health, employment, poverty eradication etc." This part of her speech has two very important aspects, one of them is the phrase *using appropriate technology*. This phrase has reassured me and also inspired me. The word *technology* has become cliché due to over use. A majority of us take this word with a positive connotation and believe technology is guaranteed to bring prosperity and happiness to the human race. But all of us are well aware of the fact that over use and misuse of unnecessary technology has brought mother earth on the verge of demise and destruction. So now we are all very critical of technology, every time we have a new technology it has to go through hair splitting evaluation, we try to see if it is a ploy of unscrupulous businessmen for quick money, or a temporary solution of luxury and comfort or if it is a real technology which is respectful towards human need and our environment. That's why I find the word *appropriate* very important, it means the rejection of unnecessary technology and the welcome of the local indigenous technology. Most importantly it has not been limited to information technology only, it has accepted every other relevant technology as well. If we accept the definition of digital Bangladesh laid out by our prime minister, then we create *Digital Bangladesh* when we introduce

admission registration using cell phone or discover a new variety of jute using the jute genome. If a farmer gets advice on insecticide for his crop through internet or a campus becomes self sufficient in bio gas using biological waste products, both can be considered as right step towards Digital Bangladesh.

The second important phrase of this part of the lecture is the word *philosophy*, *modern philosophy* to be exact. So we can guess the program of digital Bangladesh is not a recipe of various goals laid out in a way so that one can follow it through detailed instructions and reach a final destination. It is a holistic approach, it is a vision, it is a dream and everyone has his or her own space to add to it as a philosophy.

Once we agree on a definition we are immediately faced with a critical question, is it a mere political slogan for election victory, or can we take it a bit more seriously, as a vision for our country. We know we have different schools of thought in this regard. A lot of experts will vouch that we cannot have Digital Bangladesh without solving more fundamental problems like poverty, over population, lack of infrastructure, poor quality of education, absence of human resources, corruption, natural calamities like flood and cyclone, political intolerance, and rivalry, instability, deteriorating law and order situation etc. Instead of addressing these issues, if a government plans to have a Digital Bangladesh it may sound nice but it is just not realistic. So the phrase *Digital Bangladesh* is then just a slogan and at best a day dream, nothing more than that. The fact is, the argument is solid and one cannot refute it.

On the other hand we can also be optimistic. It is more or less accepted that we prefer a democratically elected government rather than an autocratic one and democracy has laid its foot on this soil. We also know we have recognized the importance of education, there are more than 30 million students in this country and there are only a handful of countries which can claim to have a population this size! Not only that, half of them are female students, we have succeeded to get them out of the home to join the work force. We have a literal revolution in agriculture, one fortieth of the population of this world live in one thousandth of the land of this planet and we are almost ready to feed them our own grain. We have had 6% economic growth for several years. We are the most resilient nation on earth, floods or cyclones torment us regularly but we can fight back and start a new life even with the minimum help or support. Most importantly we have a new generation who are patriotic, they love their country and are proud of it. I think we can dream of a new Bangladesh along with this new generation.

How one will interpret the situation is always his or her own judgment. Half a glass of water is half full to some and half empty to others. I personally believe one can have a deterministic answer of half a glass of water- it is half empty if the water level has decreased to the half position. It is half full if the water level has increased to the half position because if the trend continues the glass will be full very soon! So I do not want to make a judgment looking at the present situation only, I would like to see the trend, what it was before and what it is now.

In 1971 right after our liberation war Henry Kissinger described Bangladesh as a bottomless basket for his personal vendetta and unfortunately this name stuck to this country. From 1975 to 1990 the country was under hopeless autocratic army rule with no future. In the early eighties, I read a grim World Bank report on Bangladesh which was so scary that it gave me the shudders all over.

Very recently (29 September 2010) there was a report published in the Wall Street Journal which exonerated us from this cruel adjective "bottomless basket". The journal has compared the 1971 counterpart Pakistan with us and declared that Pakistan has a lot to learn from us. The world renowned Goldman Sachs had once predicted the rise of BRIC (Brazil, Russia, India and China) as economic powers and it came true. They have now declared the *Next 11* and Bangladesh is one of these countries. Recently, Gartner, a very well known and reputable organization has published a list of 30 countries suitable for handling the outsourcing work of the world, we were pleasantly surprised seeing the name of Bangladesh in that list. We can give more examples but I think I have made my point, the present position is important but it is a lot more important to know the slope of development. If it is positive we have a right to dream, because the development is not linear- before we know it, we will see the snowball effect and will be pleasantly surprised to see ourselves in a position we did not expect.

The intention of this long introduction is obvious, I would like to take this Digital Bangladesh initiative seriously. I think all of us should contribute in our own way and be a part of it. I believe we have finally earned the right to have a dream.

Prospect:

The most important aspect of Digital Bangladesh initiatives is one which cannot be measured by standard parameters. Every election manifesto has nice commitments and ordinary people do not take them very seriously. For some reason the citizens of Bangladesh took this commitment seriously, it is now a household word. We use this phrase and misuse it, we make fun of it but at the end all of us have an expectation. It is a very big achievement because nationally we had become used to live without any expectation! I had an opportunity to visit a world fair in Germany about a decade ago. When Israel spelled the name of their country like Isr@el to show their affinity towards information technology, the Bangladesh pavilion was decorated with hut and rickshaw- I was dumbfounded seeing that we go out of our way to showcase our poverty in international forums. Considering that episode, the Digital Bangladesh initiative is a big leap forward, now we want to show ourselves as a technology savvy nation! Not only that, most of us believe it, are excited about it and this seminar is an example of this.
The government and non government organizations will undertake a lot of proposals on Digital Bangladesh. Some of them will succeed and some of these will fail. There will be pre defined goals and lots of projects will miss the goal. Even then it will be useful for the nation. Attaining a fraction of the goal is also an achievement and can be the stepping stone for the next project.

When the government first declared the Digital Bangladesh initiative I was very happy for a completely different reason. In my personal life, I have a single track mind, I tend to believe that every problem of Bangladesh can be solved just by improving our education system. In my opinion one of the two most important ingredients of Digital Bangladesh is skilled manpower. We can import a lot of stuff from abroad, in crates, but we will never be able to import Digital Bangladesh itself. We have to do it ourselves using our own people. So the announcement of creating Digital Bangladesh is in a way an announcement of creating skilled man power for the country. This can happen only with a modern education system and we should expect to see a radical change in our education system. The country should migrate towards creative education from the present education of rote memorization. We should develop our capability of imagination and most of all we should definitely start a new culture of research.

The second most important ingredient of Digital Bangladesh is electricity. We can never even able to dream about having a Digital Bangladesh without electricity, so we can expect this government to guarantee a continuous supply of uninterrupted electricity to our nation. This has to be supplied at low cost as well. There are a lot of creative individuals among us and they can start a host of economic activities if they could be provided with only uninterrupted low cost electricity!

When we talk about Digital Bangladesh we discuss a lot of high level issues but often we tend to forget the very obvious things. I believe if we can implement a very small degree of e-governance through computerization and achieve transparency, we will be able to cut down a significant amount of corruption.

The list of the possibilities that could be open through Digital Bangladesh could be very long. It is my guess that no one has a complete list and no one can ever have a complete list either, because one can keep opening new doors of possibilities using his or her creativity. Even then we can discuss a few obvious possibilities. For example:

a) Each institution, agency, government office may keep an updated homepage enriched with all the information a citizen may like to have. Citizens will be able to access information on different agencies and process them even from home. Citizens will also get the opportunity of assessing these institutions based on their performance. This will force these organizations to excel in their fields. If the web pages are created on world standards, the search engines will be able to locate them and accumulate to present to the web browsers when necessary.

b) Most of the routine work of filling different government forms, paying utility bills, applications for jobs or admission to different institutions could be done online. Parents will be able to send their kids to appropriate schools/colleges without much hassle since most of the communication works could be done online.

c) Educational institutions will be enriched and strengthened with ICT tools. This will enable students of schools and colleges of disadvantaged localities to have adequate materials of learning. Development of computer aided learning packages on different subjects can also aid students adequately.

d) Performance of educational institutions of all levels will be evaluated and relevant information will be accessible to all citizens. This will inspire every institution to excel.

e) Hospitals and health care units will be strengthened through application of ICT tools like Medical Expert Systems and making experts of the country available for treating patients located in the outskirts. Optimal utilization of resources will be ensured.

f) Cultivators and farmers will have adequate information as to the most profitable crops they can cultivate and the right market places to sell them.

g) We expect a better land administration that will enable settlement of land related disputes without much hassle. This will enable prospective buyers and sellers to access land related information in the minimum time.

h) In Digital Bangladesh we expect the judicial system to be more effective in ensuring justice without unnecessary delay in hearing and lack of transparency.

i) Transport authorities will be supported with ICT tools and relevant information so that traffic movements do not suffer delays. Information on traffic conditions in

different roads will be accessible to citizens for their judicious choice of timing and route selection.

j) Many jobs will be ICT-intensive and such employees will be able to do their jobs at home thus denying further traffic jam. Access to information will also reduce physical communication and traffic jam drastically.

Priorities:

In the beginning we have tried to convince ourselves that the dream of Digital Bangladesh is not only about information and communication technology, if a technology can provide us a better lifestyle we will consider that to be a part of Digital Bangladesh. In implementing technologies we have to be very careful that we do not over burden our country with unnecessary technology using irresponsibly. In Bangladesh only 4% people have access to the internet, but almost 50 million people use cell telephone. So if we want to provide a service to common people it makes a lot of sense to provide it through cell telephones. We implemented this simple idea for the admission registration in our university last year. The idea was so successful that this year it was implemented in 21 universities. Of course we hope the country will have a lot more internet penetration so that we can provide a lot more upgraded services even then it may be a good idea to provide the service using the appropriate technology- not making the system unnecessarily cumbersome for ordinary people. Digital divide is not any less cruel than the social or economic divide.

We can start a long debate on the subject of priority as to which one should be done first and which one should be done last. But we do not have any controversy on one specific topic. In our country when we buy a computer we always get a bundle of software with it and in most cases these are pirated software. We do not buy legal software because in most cases the cost of software is at least a factor of two more than the hardware. Surprisingly among us there is no guilt about using pirated software- which is no better than stealing! The big multinational companies who make these software will tolerate this unethical activities on our part till 2013. After that the copyright laws will be enacted in our country. I am dreading that one fine morning we will find that our total computerization has collapsed over night due to this. We do not need to be in this situation because there is a very respectful alternative known as open source software. These software are better than their commercial counterparts and a lot of countries have officially decided to have the open source solutions nationally. These are absolutely free, developed by millions of smart people around the globe who believe in the philosophy of sharing knowledge. It will be suicidal on our part not to take the smart solution right now.

Since almost one third population of this country has cell telephone it is obvious that our entrepreneurs will try to find new services using the cell telephone. One major drawback is the lack of a mechanism of legal financial transactions using cell telephone. We have seen rural people have their own way of financial transaction which is neither legal nor safe. If the government can come up with a proper legislation, we would see a lot of cell phone related services in the near future.

The list of priorities could be very long. The priority list could be very different for different individuals also. Since I am a teacher and my priorities are always close to education, it is not surprising that my list may look like this:

a) The Government should take an initiative to create an institution that can act as a role model for a "Digital Institution" so that other organizations can follow it. The declared "Digital University" can play the role and guide and inspire the nation to replicate further examples.

b) Since the only surplus of the country is population, development of the country can be ensured only through development of human resources, key to which is education. We must give top priority to education. We cannot change the situation overnight. Training huge population of teachers is a daunting task. We must make high quality text books available for the students. We must develop computer aided learning tools that will be helpful to teachers and students alike. Moreover, there will be uniformity of learning materials over the country.

c) Admission into schools, colleges, universities and other educational institutions will be transparent and ICT tools should be utilized to make the process comfortable. Performance of all educational institutions will be observed, analyzed, and made available to the common masses for evaluation so that every institution strive for attaining excellence. Education at all levels will be uniform with the availability of educational material on line.

d) We must initiate a parallel Olympiad-like competition to inspire creativity and problem-solving skill in our students.

e) Initiatives of computerization and related developmental works should be largely done by our own people. Our young people should be given adequate opportunity to turn their country to a "Digital" one. Importing software, that can be developed by our own ICT-skilled manpower, should be discouraged.

f) In our country 95% of productive man-hours is lost due to 5% ordinary diseases. We must take adequate care in improving efficiency in our health sector management. Upozilla hospitals should be strengthened with computerized systems so that the large population of patients can be treated efficiently though Medical Expert Systems. Moreover, all hospitals of the country should be connected to a central hospital enriched and staffed with experts of various fields so that distant patients can get expert medical advice from them. Every citizen will undergo health check up at a regular interval.

g) Land administration must be computerized to reduce land disputes and other harassments that citizens have to suffer.

h) Each institution in Bangladesh, be it government, private or social, must have a homepage enriched with information needed by people that interact with it. They must also upload forms and other documents for online filling up and submission.

i) Agriculture sector should enable cultivators access information that will be needed for better production and sales of their products.

j) The judicial system will be strengthened through application of ICT. This will help establish a just society where justice seekers would not be subject to different types of harassment like through delaying hearing of cases. Judges will be supported by making verdicts of similar cases available in time.

k) Since transportation system has remained a big bottleneck for the development of the country, and rail network being an important mass transit system, necessary expansion plan for this sector will be undertaken and its effective management will be

ensured through developing a computerized management system. Mass transit system will be given higher priority.

Conclusion:

I was a member of the education policy committee and working with the committee members I had developed one new skill I have learnt to multiply everything by 80 thousand! We have roughly 80 thousand schools in our country and if we want to buy one chalk for every school we have to buy 80 thousand chalks! If we want to recruit one teacher for every school we need to recruit 80 thousand new teachers, make one more room for a school we have to make 80 thousand rooms. That's why it is very important that we take right decisions so that we can use our resources very effectively, one wrong decision may incur a huge financial loss. Unfortunately in our country very important decisions are taken whimsically, I get worried when I see that government is planning to give laptop computers and video projector to schools so that teachers can prepare their class lecture using power point presentation for their students. Laptop and video projectors are great for seminars and talks but it does not work for teaching the Pythagoras theorem! For class teaching still there is nothing better than the good old black board and chalk. Besides, with intermittent electricity we don't think we can get maximum use out of it. I can think of a hundred and ten things we can do for schools with that amount of money. I certainly hope we do not waste money in the name of Digital Bangladesh. I think a much smarter thing will be giving a simple television set and set up a separate educational channel for the students- it will be a lot more effective with virtually no maintenance burden.

The software industry of this country has not yet developed as desired. However we can feel that things are gaining momentum, computer science related graduates get employed before they graduate and their entry level salary is often more than my present salary! Big companies are coming to Bangladesh and more entrepreneurs are becoming successful. Software companies want good developers, although we have around 30 public and fifty private universities and every university has computer science related graduates, only a handful of them have the right education to be useful. It is a huge waste and it will be nice if we could evaluate them, find their short comings and put them through training sessions to make them useful. I had an opportunity to work on one such government project known as IPSAEP (ICT Professionals Skills Assessment and Enhancement Program) and we gave a lot of hours in planning and finally spelled out the details of the program. It has gone through every step, software industries signed MOUS to recruit the candidates from this program and it was about to be launched. I was dismayed when I saw that the highest body of the Digital Bangladesh government killed it with one simple stroke of a pen. Nobody had any opportunity to defend the proposal! In my opinion we have lost an excellent opportunity to develop skilled manpower in this field. I know about this episode because I was a part of it, I have a hunch there are other similar examples where excellent ideas get killed because of whimsical decisions of important individuals in the government.

One can always argue, if the initiative of digital Bangladesh is going ahead with the right momentum, but nobody can deny that this initiative has generated a lot of activities around the country. Very recently I had an opportunity to attend a fair where different government ministries showed their work on public service and I was very impressed. It is not the quality of the work that impressed me, I was impressed by the change of the mindset of the government. I realized for the first time the government people were eager to come down to the level of ordinary citizen and provide them with a service they need. I

believe, this is probably the most important achievement of Digital Bangladesh- changing the mindset of the people of the country where they start believing that they can do something which no one could do before. I can feel the vibes and say that we are very close to that point.