INTERNATIONAL CONFERENCE ON THE DIGITAL REVOLUTION : UNDERSTANDING THE IMPACT OF DIGITALISATION

Conference Report

BIPSS
Towards a Secure World

KONRAD ADENAUER STIFTUNG

Bangladesh Institute of Peace and Security Studies (BIPSS)
and
Konrad-Adenauer-Stiftung (KAS)

International Conference
on
The Digital Revolution : Understanding The Impact of Digitalisation

Organized by:

The Digital Revolution : Understanding The Impact of Digitalisation

Rapporteurs and Report Writers
Khaled Nasir (Senior Research Associate, BIPSS)
S. M. Azharul Islam (Intern, BIPSS)
Nahian Salsabeel (Intern, BIPSS)
Faria Ulfath Leera (Intern, BIPSS)

Editor:
Major General A N M Munuruzzaman, ndc,psc (Retd)
President BIPSS

This report summarizes the proceedings of the conference as interpreted by the rapporteurs and editor. This report adheres to a variation of the Chatham House Rule.

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Executive Summary

Digitalisation is viewed as the next phase of industrialization, the industrial revolution that would be its eventual impact on economic and social institutions across the world. As industrialisation placed machine power at the centre of the economy, digitalisation makes digital intelligence its new fulcrum. As the world is gradually moving from labour intensive industries to more knowledge based economy, the effect of digitalisation process will be omnipresent across the world.

We are witnessing the growth of the information technology being intertwined with almost every facet of our lives. The factory as the site of mechanised production was the central economic institution of the industrial age. Thanks to the digitalisation process, any form of data can be transformed into digital form. One of the biggest advantages of digital data is portable and can be transferred and preserved. For digital age, it is sectoral platforms that re-organise entire economic activities in any sector based on digital intelligence arising from data. The machines that drive our factories are becoming smarter as more machines come with dexterity and intelligent that can rival the human operators in the near future. This is why it is essential for us to understand the implications of the digitalisation process that sweeping across the world.

Bangladesh Institute of Peace and Security Studies (BIPSS) and Konrad-Adenauer-Stiftung (KAS) jointly organised an International Conference on "The Digital Revolution: Understanding the Impact of Digitalisation" on the 02 & 03 September, 2019 in order to understand the process of digitalisation. The essence of this conference was to understand the extent of digitalisation, the implication of digitalisation process and possible implications in the rapidly changing world. Bangladesh is a developing nation with a huge population. The majority of the population falls under the category of youth. Youth unemployment has already been identified as one of the major issues that can stall the enormous progress made in recent years by the government and other stake holders. Bangladesh must consider the necessary changes to develop its human resource. The path to development lies in the rapid adaptation of digitialisation on every facet of lives of the thousands of people.

The event had several working sessions that included presentations on specific issues of digitalisation. Issues such as digitalisation and governance, changing social norms and economic transformation, smart city management, the future of work, impact of digitalisation on the society and changes in the financial system are some of the issues that were discussed at the event. Experts from respected fields explained the key issues that were essential to elaborate in order to fully understand where our future lies in the years to come. From the discussions and interactive question and answer session, it was clear that developing countries must urgently begin shaping digital industrial policies based on different economic approach. Industrialisation is not possible

in developing countries without a considerable initiative from both public and private sector, to facilitate digital industrialisation. This mental shift is most important to be made, in the face of the globally dominant digital economy model that is taking advantages of e-transactions, providing legal framework to protect consumers and ensuring security. In developed and developing countries alike, modern information and communications technology is no longer just a convenience: it is a necessity. It is an indispensable part of modern life. The information super highway is not only a marketplace for goods and services; it also helps us to exercise our social, economic, civic and political rights, and to participate successfully in the changing world of work, whether by working from home, or by setting up and running a new business. Today, around half the world's people have access to the internet. According to the International Telecommunication Union (ITU), a United Nations agency, some seven billion people – 95 per cent of the world population – live in regions with mobile network coverage, with mobile broadband (at least third generation) now reaching roughly 84 per cent. Young people are at the forefront of internet use worldwide: around 70 per cent of them are online and they account for almost 25 per cent of internet users. The numbers of internet users are also growing in Bangladesh as the number of active internet connections in Bangladesh hit 90 million recently. We believe that we are passing through an era of technological revolution that is transforming business, government and society alike. All are being challenged to adapt and must keep up with the changes taking place across the globe. This is especially true of governments, which have struggled to deliver growth and prosperity, are in many cases lacks the necessary resources that traps them in inefficiency and confined them in obsolete development models, now have a responsibility to lead digital transformation. The lack of efficiency and resource constrains stalls many development initiative in many different countries. By embracing the new paradigm of development through adapting new digital tools as well as policies, many people in the developing world can be pulled out of the poverty. In terms of efficient governance system, digitalisation will help to cut red tape, generate inter departmental efficiency and provide higher-quality services. Digitalisation can drastically reduce corruption; can create a smart city management system and leverage on existing human resources by means of training and educational reform. Institutions averse to technology and innovation will risk of being late in responding to challenges in this rapidly changing environment. By keeping education policies and systems unchanged, governments risk continuing to produce irrelevant skills for their economy. To break the status quo, both governments and private sectors must have a different approach that encompasses technologies at its core. The private sector and non-governmental organisations, are finding innovative ways to extend connectivity to the disconnected. One of the major goals of this conference was to make aware of their potentials, providing a pathway to develop themselves in the years to come. For a country such as Bangladesh, the ultimate quest for the policy makers and stake holders would be to reform the existing education systems to meet the future challenges while coming up with policies that will disrupt to a minimum to the socio-cultural and economical legacies.

Welcome Remarks by President, BIPSS

Major General A N M Muniruzzaman, ndc, psc (Retd)

Good Morning Excellencies, distinguished participants, ladies and gentlemen. It gives me distinct pleasure to welcome you all to the International Conference on 'The Digital Revolution: Understanding the Impact of Digitalisation' jointly organised by Bangladesh Institute of Peace and Security Studies (BIPSS) and Konrad-Adenauer-Stiftung (KAS). The world is at a cross road of major transformation. This is triggered by the process of digitalization. It involves massive adoption of digital technologies that generate, process, share information. The impact of digitalization is profound and it is all encompassing. It will affect issues such as jobs, wages, health, education, resource efficiency and many more. We are in the process of creating a new world and in some ways, we are in uncharted water. We are likely to face massive challenges but at the same time, if understood and managed well, it will offer us huge opportunities. It is extremely important to comprehend this new and emerging world and charter a new course.

Among all the sectors, one sector that worries us all is the future of work. We can clearly classify three categories of jobs:

    a) Jobs that will disappear or will be lost to the machine, i.e., clerks, truck drivers, many doctors and other specialists.

b) Jobs that will readjust with machines or algorithms like professionals such as engineers etc.

c) New jobs that are unknown and will need new skilling like Deep Data, Managers, Human-Machine Interface Operators etc.

It is quite likely that there will be massive job losses to start with and some estimates go up to a billion. However, societies that understand the transformation will take advantage of the new jobs that will be created. It will create new roles such as Machine Optimisation Manager, Cloud or Multi Cloud Providers or Data Scientists. The critical challenge for relatively low tech, labour intensive countries like Bangladesh will be to manage this quick transformation with minimum social and economic disruption.

But it is not the job market alone, digital transformation impacts the society at several other levels, such as education, urbanisation, finance and economy etc. It also provides opportunities for better service delivery, particularly in health services, environment management, energy distribution and others. It will allow better interaction between the citizens and the government on different e-platforms. It is likely to provide better transparency and accountability of the services that is provided by the state. Specially in the urban sector management, it will give the capacity to create a Smart City where digital platform will take over to provide efficient services in everything from traffic management to waste disposal, water recycling to recreation, smart policing to clean energy, to a truly smart living.

Policymakers need to understand that digital transformation is not a onetime event but it proceeds in waves, driven by technological progress and utilization of technologies. The current wave is certainly very significant and rapid. The things that are shaping this wave are:

a. Big/Deep Data

b. Internet of Things/Everything (IoT or IoET)

c. Robotics

d. 3D Printing

e. AI and Machine Learning

Together they create Digitalization 4.0.

We in Bangladesh must scan the horizon to see what technological changes are coming so that we can prepare for the change and adapt ourselves. Being a low tech, labour intensive country it may give us an initial shock but with proper planning and foresight we will benefit in the long run. We are at the door step of a new world and we must embrace it for a brighter future.

Welcome Remarks by Director, Regional Programme Political Dialogue Asia, Konrad-Adenauer-Stiftung
Mr. Christian Echle

First of all, it is of utmost importance to ensure there is sufficient digital literacy amongst population of the respective countries. Social media has created a revolution in the field of communication. The costs and benefits of the social media should be analyzed. Infrastructure plays an instrumental role in the field of digital transformation. The country with better infrastructure will be able to adapt with the process of digitalisation. Many jobs will be replaced by automation. There should be innovation to preserve the jobs. Proper training should be given to the existing workforce in order to prepare them for the future trends of digitalisation. There should be a joint effort of government, political parties, civil societies and all other relevant stakeholders to keep up with the pace of digitalisation.

Working Session 01

The first working session was chaired by Dr. Fahmida Khatun, Executive Director, Centre for Policy Dialogue (CPD). She addressed digitalization as a very relevant issue for discussion which will encompass lives while moving ahead. She talked about the three different Industrial revolutions and how it is necessary to take full advantage of the third Industrial Revolution. The fourth Industrial Revolution is knocking at the door and it is a very big challenge for developing countries. She also said that for a country like Bangladesh it will be challenging to cope up with the revolution in terms of its policy making. As a country where maximum of the works are based on the labor power, a machine replacing ten workers is going to be challenging for our nation. By 2030, it is expected that 800,000,000 jobs will be declined. Not coping up with digitalisation will create 'digital divide' between the poor and the rich countries, the developing and the developed countries which will lead to further inequality between countries. Inequality is a major issue, in the developed countries, specifically in the developing countries. So it implies that technology has an impact on us and it does not operate automatically, it depends on how we operate it. After that she concluded her opening remarks and introduced the two distinguish keynote presenters of the working session, Dr. Diego Maiorano, Visiting Research Fellow, Institute of South Asian Studies, National University of Singapore and Mr. Dhruva Jaishankar, Fellow, Foreign Policy Studies - Foreign Policy, Brookings India. This keynote presentation included the effects of new technological changes in different sectors. Digitalisation has widespread implications such as domestic, international, economics and society. The key presenter talked about first and the second wave of digitalisation. The first wave includes Democratization, Services trade and financial markets and Governance which have various implications and also impact. The second wave includes computing: Cloud Storage, Blockchain, Quantum Computing, 5G Telecommunications, Artificial Intelligence such as Machine Learning, Deep Learning, Automation: Robotics, Internet of Things, Cyber-Physical Systems. In this wave there have been new dimensions added to manufacturing materials, optics, sensors and 3D printing.

Key Note presentation by Dr. Diego Maiorano, Visiting Research Fellow, Institute of South Asian Studies, National University of Singapore

Digitalisation and Governance in the 21st Century

It included different topics such as digital politics, accountability and digital politics, conflict of interests and regulations. He started his presentation with the social relation with fake news and how rumors spread really fast. He narrated different stories to interpret the impact of fake news. For example, "Fake news" is not an invention of the Internet. Although the web offers new and easier avenues to disseminate false information,' democracies historically must defuse the constant danger of false facts, especially in the context of a political debate. Weaponised defamation, used as a deterrent against the free press, is similarly not a new occurrence. Both phenomena, spreading false information and threats of defamation suits, call into question two of the main pillars of the existing democratic values and human rights system, particularly during electoral campaigns: The right to freedom of information, including the right to be correctly informed, and the right to free elections. His presentation also included political socialisation and digital media. People often tend to read or watch politically aligned media sources. Echo chambers exist in social media which leads to political polarisation. Dr. Diego Maiorano also highlighted that the trust on the mainstream media is slowly eroding, Digitalisation revolves around the politics and examples can be drawn from across the world.

Dr. Diego Maiorano

The political narrative depends on the media to reach the supporters and fundraisers, to mobilize and rally up the supporting base across the nation. The growth of social media use raises significant questions related to political information and its effect on political knowledge and participation. One issue is whether social media delivers news and political information in a similar manner as traditional news media sources, like newspapers, TV, and radio, by contributing to political knowledge, which is linked to voter turnout. This presentation examines a recent research on relationship between an individual's social media use, their use of traditional news media sources, and whether they turn out to vote. It utilized American National Election Survey data from the 2016 U.S. Presidential election to complete three studies. First, the research compares people who prefer social media and those who prefer traditional news media sources across as series of political habits and attitudes. Second, it looks at the expansion of the media environment and examines whether a person's social media use and preference for news or entertainment is related to political knowledge and voter participation. Finally, this dissertation examines whether social media use increases the odds an individual will turn out to vote, thus acting in a similar manner as traditional news media.

Politicians can identify differences between people who prefer social media and people who prefer traditional news media sources. In particular, people who prefer social media tend to be younger, have less political knowledge, and have a lower voter turnout rate. However, unlike traditional news media use, the use of social media did not increase the odds an individual turned out to vote thanks to data collection and data mining.

An additional reason social media use may not affect political participation is how social media fits within this expanding media environment in relation to long-standing media sources. Many experts termed this as the hybrid media system. Many experts argue that anytime a new form of media is introduced there is a period of time where we have a hybrid system. In this system, the new media source takes on characteristics of existing media. For example, when television was first introduced, the shows being produced were essentially popular radio programs transferred to the screen. In fact, initial proponents of television, like many were powerful radio people who viewed television as an entertainment outlet. They hoped to build it in a similar manner to AM radio with a focus on entertainment and advertising. After a period of time, television began to find unique ways it could tell stories and eventually present news and information. This is when it became an important source of political information.

The rise of the fake news is very real. People fall for the viral effect in social media. The phenomenon of the fake and biased news is relying social media because it relies on the social relations that existed long before the social media. Politics now-a-days, moved into the digital space, people would get into the heated debate in the social media. India during 1980s was a place where people went to a local mosque to celebrate the Eid. At some point there was a rumour about an attack by extremists. In the months that followed, there were riots among Muslims and Hindu extremists.

Mr. Dhruva Jaishankar

Keynote presentation by Dhruva Jaishankar, Fellow, Foreign Policy, Brookings India

Digitization: A Vehicle of the New Age of Transformation

This keynote presentation included the effects of new technological changes in different sectors. Digitalisation has widespread implications such as on domestic, international, economic and societal. The key presenter talked about first and the second wave of digitalisation. The first wave includes Democratization, Services trade and financial markets and Governance which have various implications and also impact. The second wave includes computing: Cloud Storage, Blockchain, Quantum Computing, 5G Telecommunications, Artificial Intelligence such as Machine Learning, Deep Learning, Automation: Robotics, Internet of Things, Cyber-Physical Systems. In this wave there have been new dimensions added to manufacturing materials, optics, sensors and 3D printing.

Several industries have been affected by digitalization over the last decade. The music industry is an early example where Napster and file sharing led to the restructuring of the entire industry. Another example is the photographic industry where firms such as Kodak were challenged by the emergence of the digital camera. Currently the world of printed media is experiencing several turbulent changes. Printed newspapers are increasing their presence online and starting to compete in digital channels. The newspapers are facing a need to innovate their operations, a need to find alternative ways to attract readers. Digitalisation has become a reality for thousands of people, whether they prefers voting or shopping.

Digitalisation has been described by Scholars as the transformation of socio-technical structures and relationships that takes place when moving from non-digital artifacts to digital artifacts. Historically digitalization has taken place in three stages. They came to call these specific levels for the three waves of digitalisation.

These three waves are:

1. The transition of analog content to digital content.
2. Separating devices that were historically tightly coupled.
3. The emergence of novel products.

The main core of this particular wave regards the transition of the analog world into a digital one. This leads to a reduction of cost but it does not change any of the processes in the organization. It is still business as usual. One important note is that this wave does not contribute to any specific changes in the tightly coupled layer of the product architecture. A tight coupling of this kind can, for instance, be the relationship among data from one device to another. This wave caught up in early 1990s-early 2010s.

The second wave of digitalisation regards the separation of devices, networks, services and contents that historically used to be tightly coupled. Thus, the second wave of digitalisation contributes to the separation between data, devices, networks and services, making them to become independent of each other. Digital technology is more malleable and generative than their analog counterparts, making them less fixed in their meaning and usages.

The third wave included different innovation with collaborative efforts. Such as innovative mash-up services can be continuously re-combined creating a constant stream of innovative possibilities. In other words, the third wave of Digitalisation contributes to the creation of new digital products and services as well as it imparts to the digital exploration and embedding of previously non-digital artifacts. Thus, the third wave, vast amounts of information that used to be invisible can now be captured, and related to a layer of semiotic logic. The separation between a physical artifact and the semiotic logic of its device and network layers of previously non-digital artifacts becomes a loose coupling of four layers in digital service architecture and forms the basis for continuing innovations in the third wave of digitalisation.

Digitalisation did not only change how people use the technology but also it influenced the governance system across the world. Digital changes made feasible by Internet and Web-based technologies and applications have moved to centre stage in many academic disciplines. They are increasingly vital to executive government operations in all advanced industrial states, albeit with a 'lag' compared with business and many civil society adaptations. Public administration and public management scholars remain divided about these developments, however.

The erstwhile dominant concept of 'new public management' (NPM) marginalized technological changes in favour of a managerialist emphasis on organizational arrangements and strong corporate leadership. NPM stressed a trinity of macro-themes—disaggregation (chunking-up government hierarchies into smaller organizations); competition (especially with private-sector

contractors but also in internal quasi-markets within government); and incentivisation (built on pecuniary motivations instead of professionalism). From 1980 to around 2005, the NPM wave was moving strongly forward across many countries, with distinct emphases in different countries.

Digital technologies are increasingly important in lowering the cost and improving the quality of all types of public services. New technologies, however, do not self-implement. In order to be successfully applied, proposed technological changes must be framed within collaborative strategies designed to promote information sharing, partnerships, and uniform standards. Methodologies for achieving these goals differ from agency to agency, from country to country and from region to region. They range from incremental to radical changes in governmental workforces and information technology systems. Digital governance offers a strategic framework for designing and implementing new paradigms to shift from bureaucracy-based systems.

From the 1980s onwards, each of these themes influenced heavily how governments across the developed world approached reform, although in different countries at different times. The approach was over-developed in some countries, particularly the UK, Australia and New Zealand (all early adopters). In others, there was no such overarching injection of NPM, but rather the use of individual components, such as privatization of railway and telecoms in Japan, agencification in Canada, and private and voluntary sector service provision at local government level in the Netherlands.

Digital governance is an objective or a further result evolving from government's progress towards implementation of e-governance. Electronic governance is the preliminary stage of combining government functions with electronic devices so that citizens are better able to increase both

the depth and breadth of contacts with government agencies electronically. Digital governance should "provide government services that don't simply fit within a read-only paradigm of interactions between citizens, government officials and government sources of information, but to allow a paradigm that achieves more interactive, process-oriented dissemination and viewing of government information. Therefore, digital governance plays a greater role in designing a strategic framework in which a more citizencentered public service can be ensured and more democratic government-citizen relationships will emerge. Digital governance is the networked extension of ICT relationships to include faster access to the web, mobile service delivery, teleconferencing, and multichannel information technology to achieve higher levels of two-way communication. It encourages the use of Google+, Skype, and other two way direct communications to facilitate the coproduction and delivery of government services between citizens, business partners and public employees. Digital governance combined with the Internet and social networking apps has the potential to transform the basic nature of public service and government-citizen relationships.

Traditional public agencies are governed by hierarchical, linear, top-down communication styles maintaining distance between citizens and public officials. Citizens only receive services between 9 AM and 5 PM, within a set amount of time, when most are working. Experts pointed out nearly a decade ago that IT has the potential to substantially redistribute power, functional responsibilities, and control within and across federal agencies and between the public and private sectors.

Digital technologies are transforming public agencies into flatter and nonlinear citizen-centric organizations fostering more interactive relationships with affected citizens using network-based systems and database driven analytics software. New types of organizations are seeking to delegate decision making to socio-algorithmic forms of power that have the capacity to predict, govern and activate learners' capacities and subjectivities. Digital technologies are also accessible 24/7, capable of enhancing communication by overcoming distances in both time and space—encouraging bureaucrats to work collaboratively with citizens.

Since the late 1990s, advances in technology have allowed more governments to apply new approaches to more actively engage citizens in the design, delivery and co-production of public services. An early trend was the creation of self-service opportunities for citizens to find information or complete a service transaction online, including availability of Congressional issue briefs, payment of bills or drivers' license renewals. In the most recent rendition of this concept, two-way information and communication technologies such as live chat sites are being used to complete complex licensing and registration transactions online. Wired public officials are available via two-way video to assist citizens in the co-delivery of services and by helping to complete transactions with government agencies without having to wait in line during office hours.

Digital divides within organizations and among the most vulnerable citizens must be overcome. How these inequalities are dealt with, how skills are learned—and how they can be applied to various functions at different levels of government—will determine how case study evidence is used to equalize access to the Internet, enhance political connectivity and promote better customer service based on improved data collection, analysis and collaboration.

Working Session 02

The second working session was chaired by Mr. Parvez Ahmed, Managing Director, CompTech Network System Pvt Ltd. He started his speech with Tsunami and the effect of it. In 21st century both the production and agricultural cost is high. And to deal with that education and knowledge of security is important. And in terms of these aspects to achieve, the developing countries are lagging behind. Specialization is required. There are other challenges too that drag the developing countries down from overcoming the drawbacks. After concluding the speech the chair introduced the keynote presenter Dr. Moonyati Yatid, Senior Analyst, Technology, Innovation, Environment and Sustainability Department, ISIS Malaysia.

Key note presentation by Dr. Moonyati Yatid, Institute of Strategic & International Studies (ISIS) Malaysia

Digitalisation and smart city management: The Digital Revolution: Understanding the Impact of Digitalisation

Her presentation was on the topic titled 'Digitalisation and Smart City Management'. Her presentation included technological revolution and how it will be altering livelihood, work and other aspects. She also provided insights about smart cities, global landscape and the world players in it. The industries are digitalised and the digitalisation is driven by technological advancement and convergence. Next, the speaker discussed about the 2030 Agenda for Sustainable Development. This agenda has 17 goals. Goal 11 is: Make cities and human settlements inclusive, safe, resilient and sustainable. There are different definitions of smart cities. The definition given in the speaker's presentation was; 'A smart city is an innovative city that promotes the convergence of information and communications technology and other means to improve quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social, environmental as well as cultural aspects.' Smart cities have several functions such as smart governance which is to improve government services to people, Smart mobility for increasing the efficiency of public transport ,accessibility, mobility of people and traffic management through intelligent traffic management in the city, smart people to improve way of life in urban areas, create knowledge workers, highly flexible and adaptable people and resilient to the changing environments, Smart economy to create

Dr. Moonyati Yatid

competitive and innovative economic opportunities to prepare aligned with the era of digital and lastly smart living to create sustainable, safe, healthy vibrant and ideal place of living for inclusive society including women, children, senior citizens and the disabled. It is projected that the number of smart cities will increase to 88 by 2025, 32 will be in Asia Pacific, 31 in Europe and 25 in Americas.

The vast majority of those who made it on to the rankings of world's leading smart cities, were predominantly capital cities or cities listed as 'world cities', 'smart city' development is closely linked to a city's global outreach and engagement. 'Smart City' boom of the last decade is linked to improving the management of a city to create a more joined up approach rather than just being all about technological innovation. Top ten world leading smart cities are London, Singapore, Barcelona, Amsterdam, Boston, New York City, Hong Kong, Chicago, Delhi and Paris. Dr. Yatid spoke about China's smart cities. About 500 of roughly 1000 smart cities being built worldwide are in China. Under a five-year plan to end of 2020, the Chinese government expects Rmb 500 billion of public and private investment in these smart cities. The cities have vast network cameras, facial recognition, artificial intelligence and cloud computing. China has emerging technologies that are fueling the trend. 5G could allow accessing the network at any time in any place by anyone, truly achieving the integration of various industries in building smart cities. APEC is also taking smart city initiatives. For example, in 2014, Changzhou Declaration took initiatives such as enhancing the cooperation among business, bringing government and academia under APEC framework, developing smart health, smart logistics, smart transportation, cooperation projects for smart city among APEC economies etc. ASEAN smart city framework is established by ASEAN member states. A smart city in ASEAN aims to find three strategic outcomes- competitive economy, sustainable development and high quality of life. The two key enablers identified are- Technological and Digital Solutions and Partnership and Funding. There are also smart city action plans. SCAPs to inform specific programming as well as activities. There are 26 pilot cities in the ASCN and four of the 26 cities are in Malaysia. They are- Kuala Lumpur, Kota Kinabalu which is in Sabah and Kuching. Malaysia also needs Smart Cities. The urbanization trend is also prevalent in Malaysia where currently 75 percent of Malaysians resides in urban areas. Also, as Malaysia is in the stage of shifting from an emerging market to a developed market, smart solutions are seen as the key towards growth. The development of smart cities is also to uplift Malaysia cities competitiveness and to prove Malaysia commitment to embark on global agenda such as Sustainable Development Goals (SDGs). Malaysia has plan, policies and frameworks. Earlier, in 2006, National Urbanization Policy (NUP) was taken. The importance of this plan was emphasised in the 8th and 9th Malaysian plans. It was to drive and coordinate sustainable urban development planning that emphasized on a balanced physical, environment, social and economic development in Malaysia. The four principles included Good urban governance, livable city, competitive urban economy and the need to have an effective and efficient communication system in ensuring smart city implementation through the provision of high-speed broadband in urban areas comprehensively and competitively. The next plan was the 11th Malaysia Plan (2016-2020) which emphasises on driving ICT in the knowledge economy through innovation and productivity to enhance competitiveness and wealth creation. This plan has 5 focus areas transform public service to be more efficient and productive. They are, Enhancing service delivery with the citizens at

the centre, strengthening talent management for the public service of the future, Enhancing project management for better and faster outcomes, Capitalising on local authorities for quality services at the local level and Rationalizing public sector institutions for greater productivity and performance. More recently Malaysia had another plan called Smart Cities Framework (2017). The context of smart cities in this document focuses on architecture of which information and communications have a crucial role amongst the other innovative solutions and city facilities. These innovation solutions address the following urban dimensions. First one is Society which refers to deliver today and future generations' requirements, by enhancing wellbeing, spiritual and social coherency, as well as efficiency regarding energy, food, water, etc. The second one is environment which refers to include protection, waste and emissions control against climate change. The next one is Governance to ensure urban utility and service availability. And lastly the Economy, in terms of sustainable growth, smart solutions to increase efficiency, productivity and city competitiveness (attracting habitants, visitors and businesses). Another plan by Malaysia for smart cities is Smart City Iskandar Malaysia, endorsed by the Prime Minister of Malaysia in November 2014, at the Global Science and Innovation Advisory Council (GSIAC) meeting in Kuala Lumpur. A mandate was given to the attending ministers to venture into Smart-related projects, which will be based in Iskandar Malaysia. This aimed at providing ease of doing business and to improving quality of life focusing on 3 areas namely Economy, Environment and Social and promotes 6 dimensions namely Smart Economy, Smart Governance, Smart Environment, Smart Mobility, Smart People and Smart Living. 'Putrajaya Smart City Blueprint' aims to guide and provide recommendations to the Putrajaya Corporation and all related departments/agencies in Putrajaya for formulating policies, strategies and action plans in the implementation of Putrajaya Smart City. Cyberjaya and Putrajaya are Malaysia's first cities to be presented with 5G technology. Malaysia also has Smart Selangor initiative by the Selangor State Government that seeks to leverage the Internet of Things (IoT) solutions in improving the quality life if its citizens. This initiative plans to realise its vision of transforming Selangor into a world-class Smart State. Melaka is a smart metering for electricity monitoring and the state government set up a Smart City Advisory Council for Smart City policies in that state. Also we have plans for Penang, Smart City Blueprint by year 2022.

Alongside the Smart City efforts in the major cities one interesting aspect of Malaysia's smart development efforts is the attention paid to the development of smaller urban and rural areas beyond major cities. These programs, started in 2014, try to reduce regional disparities and encourage more equitable growth between Malaysia's major cities and smaller, lesser-developed towns also in remote rural communities including ethnically indigenous/native communities. The

smart community projects outfitted smaller towns across the country with tech-based solutions. For instance, smart flood management systems because flooding is a huge problem in the North, Internet access centres, Tech training programs to foster local tech talent etc. The smart village initiatives focused on remote rural villages—here the efforts were more basic, including electrification of villages, and helping local villagers increase their income sources through "smart" farming/aqua-farming. Up next, the speaker talked about Key technological aspects for development. This includes ICT as enabler of smart cities. Information and communication technologies are necessities for smart cities due to their capacity to gather, process, analyse and disseminate considerable amount of data that can increase the efficiency of city functions in terms of resource consumption, services, and life styles. The convergence of technologies (such as mobile broadband, Internet of Things (IoT), advanced robotics, artificial intelligence and big data analytics) from telecommunications, broadcasting and multimedia sectors is the key enabler towards successful smart city development. IoT is one of the catalyst since it has the potential of merging the physical world and the virtual world through providing the internetworking between devices (such as sensors and actuators) that interfaces with physical objects (such as vehicles, buildings and other "things") with the powerful and disruptive computing world (such as the mobile, social, big data, cloud computing, machine intelligence and others) by virtue of their connectivity via the Internet. This leads to new scenarios that would not be possible before such as intelligent buildings, real time predictive analytics and control, smart manufacturing, autonomous vehicles, personal assistants and robots, high quality speech recognition and others. This leads to new scenarios that would not be possible before such as intelligent buildings, real time predictive analytics and control, smart manufacturing, autonomous vehicles, personal assistants and robots, high quality speech recognition and others. Information and communications technologies serve as a fundamental base in supporting the smart city vision to increase quality of life by addressing 4 dimensions of city. In terms of development, Malaysia's focus has been given to two areas. They are Development of Internet of Things (IoT) and Development of cheaper and faster Internet. National Fiberisation and Connectivity Plan (NFCP) is another plan for development by Malaysia. It aims to upgrade fiber optic infrastructure, to Increase internet speed and to reduce the cost of fast internet. Later the speaker pointed out some of the challenges that are being faced in Smart city management. For example, Awareness, User Acceptance and Trust Deficit, Cyber Security, Cooperation and Collaboration, Soft Infrastructure, Environmental Issues, Inequality and Exclusion etc.

Awareness is very important in terms of smart city management. Cooperation and collaboration is needed between the agencies to have a better smart city management. Lack of soft infrastructure can restrain the growth of smart city management. Then the speaker narrated a case study of Cyberjaya. Cyberjaya is an entity that focuses on city innovation and different aspects of it. Cyberjaya also have projects that bring solution to the city problems. Cyberjaya was initiated in 1997, to develop a rubber plantation into a 'cyber' city. It involved many collaborators including Japanese telecommunication companies. Cyberjaya ended up being a place where large corporations put their backend data processing, call centres, and other supporting functions. As Cyberjaya was not an immediate success, there are some lessons learnt from Cyberjaya. For instance, ensuring sufficient demand and ensuring sufficient network and agglomeration effects is crucial, however,

equally as important is making sure that there is enough "soft" infrastructures in place such as entertainment, culture, restaurants, transportation etc. which make the city more vibrant and livelier. The second case study was about another smart city 'The Forest City'. Forest City spans within Iskandar, at the southernmost tip of Peninsular Malaysia bordering Singapore. It consists of four human-made islands, a golf resort and an industrial park. The city, which Forbes names as one of "five new cities that are set to shake up the future", houses more than 15,000 residents, with a total land area of 1,386 hectares (150 million sq ft). It is approximately 3x the size of Sentosa Island in Singapore, 4x the size of New York's Central park, and it should house about 700,000 residents. The mega-project is also estimated to have a gross development value in excess of US$29 billion in a span of 20 years. As a Smart City, Forest City boasts impressive eco-centric architecture, promoted as a green city of the future. It also features smart security systems to ensure its residents' safety, including smart doors and elevators that use facial and fingerprint recognition, as well as invisible electric fencing. The Forest City uses the Forest Lift App so that residents can access a variety of community services, a cloud-based community digital library and even multilingual support and welcome guides. This year Forest smart city won Top Smart City Project for Smart Buildings - IDC Annual 2019 Smart City Asia Pacific Awards (SCAPA). There are things to be learnt from Forest City, such as concerns like Inequality and exclusion and environmental Impacts. Smart cities, especially manufactured ones, can seem designed for wealthy elite, doing little to help poor communities living on their doorstep. There is also impact on the local fishing community - reduced catches and growing petrol costs due to the extra mileage incurred by the causeway and more distant fishing grounds. Seagrass meadows are essential indicators of a shoreline's health. When protected, they can contain some of the most diverse marine wildlife, but they are also extremely fragile ecosystems put through tremendous pressure by waterfront developments such as Forest City. A long causeway into the sea has been extended - cutting across the seagrass meadow, potentially altering currents and threatening the ecosystem's rich biodiversity. Inter-country cooperation and collaboration could be key for addressing most issues and concerns mentioned about Smart. For instance, inter-country cooperation and collaboration could assist on the implementation of smart cities. Smart technology has very utopian intentions, but it is really about how it is implemented on the ground that ultimately dictates its success. And for success cooperation is needed. Opportunity to increase cooperation between ASEAN and APEC (Asia Pacific Economic Cooperation) on smart cities—and reduce overlaps between ASEAN and APEC's efforts smart city initiatives. APEC has been doing work on smart cities for a long time now. In fact, APEC member economies pledged in 2014 to enhance cooperation amongst business, government, and academia amongst APEC economies with regards to smart cities and even established an APEC Research Centre for Smart City Initiatives in 2014 in Changzhou. APEC and ASEAN are both Asia-focused regional institutions that share similar very goals and have very similar member economies, the scope and room for collaboration is very large. Dr. Moonyati Yatid concluded her presentation by stating the advancements and convergence of technologies pave the way for the development of smart cities and Smart cities bring many benefits to improve the quality of life for urban people, but they also come with other issues and side effects. Lastly she stated that there needs to be balance in smart city development as well as efficient ways to mitigate the issues & challenges to ensure the success of those smart cities, especially leveraging on better cooperation and collaboration.

Key Note presentation by Dr. Imtiaz A. Hussain, Dean (Acting) School of Liberal Arts & Social Sciences (SLASS), Head, Global Studies & Governance (GSG) Program Independent University, Bangladesh.

Digitalization and Industrial Revolution 4.0:
The Future of Work

The second keynote presenter for the working session two was Prof. Dr. Imtiaz A Hussain, Head, Global Studies & Governance Programme, Independent University, Bangladesh (IUB). His presentation was titled 'Digitalisation and Industrial revolution 4.0: The Future of Work'. He started his presentation with a brief on the concept of revolution. Revolution is happening everyday and a very subtle change. And this change is seen to be a posteriori rather than a priori, for example the fourth Industrial Revolution. The second concept that he talked about was industrial. If we go back to history, at the beginning there was no industry. There were only factories back then, such as coal and textile factories. The Industrial revolution emerged in the 18th century. The speaker brought down the four Industrial revolutions into two clusters. The first one is the 'physical industrial revolution' and the second one is 'intellectual'. The physical revolution basically refers to the land, labor, and capital. These are basically used on the ground to get the production done. The first two revolutions are physical revolution and the last two are intellectual revolution. The second two revolutions were a massive game changing concept. Smart city, AI, robot these concepts are trending right now but the question arises if these can impact the mass people or

Dr. Imtiaz A. Hussain

not. From the first and second Industrial revolution, the third and fourth Industrial Revolution has many changes. In this century, a lot of countries are going down the path of innovation and technology. Some of the inventions from 2nd Industrial revolution are Bell's telephone, Marconi's radio, television etc. In the 3rd Industrial Revolution there was a shift from radios to cellular phones. In the 4th Industrial Revolution intergalactic movies are seen to be using robots and drones also military weapons i.e Star Wars. In the era of fourth Industrial Revolution there are five crucial capabilities and all of them have business connections, they are all business biased. How to turn a city into a digitalised city is a very tough question, it has to be seen from a different angle. Reinforcement learning is necessary. There are also some defies attitude that comes from the Industrial Revolution. For example, increasing passivity, emotional detachment also decreasing agencies. People do not call out for agencies anymore.

The revolution gives individualism which is leading people's lives to different states of nature. Another attitude is increased ignorance; people tend to neglect society, culture, values etc. Everything is on the Smartphone, which is available in our hands. As long as people are getting everything in their cell phones whenever they want, simultaneously it is decreasing the values among people, also the practice of culture. Industrial revolution is also providing new opportunities for old jobs to reinforcement, integrating new contraptions. Knowledgeable people are being gathered for training programme on technology and how to cope up with that. In Dhaka, we are hiring a lot of White Collar jobs from abroad to fill in jobs such as trainers who will teach society about the technologies. The other job is to explain and unravel the Artificial Intelligence to the rest of the society and lastly there are sustainers who look at the outcomes. All these jobs are intellectual. These skills are needed to drive into the future of digitalisation and to succeed in terms of adapting to digitalisation. There are some issues that the speaker mentioned during his presentation that are to be taken in concern. Such as penetrating the digitalisation and the use of it properly so that one part of the society does not lack in progressing than the rest of it, there is often a gap of inequality between the urban and the rural people which should be addressed. It is necessary to reach the gap and mitigate it. After that, the speaker talked about Bangladesh as a country working towards becoming more digitalised. Bangladesh is attempting to be more and more digitalised. There are four pillars for Bangladesh that are being helpful here. First, human resources department which boasts second largest online workers pool and for a country like Bangladesh, this attempt is quite accomplishing. Connecting citizens is another pillar for Bangladesh which seeks to create 100% connectivity sought by 2021 (50th anniversary of Bangladesh's independence). A mass populated country like Bangladesh, it is necessary to have connectivity to get a better outcome. Now the question is what kind of connectivity is needed to be established. After picking up the right tools and intellect to nourish the digitalization, the right connectivity is also needed to be established. Microscopic education is also needed for picking up the needed skills. The third pillar is the digital government which is to accelerate digital service. For example, E-services/e-procurement is opening. Again, we must get out of the city, to the remote areas which Bangladesh is already doing. The concept of revolution needs to be spread across the country; in every corner and no part should be lagging behind. ICT industry promotion, the fourth pillar has been fundamental. Bangladesh needs to keep up with this pillar to succeed in fourth Industrial revolution. We are all trying to strongly hold to the concept of innovation but

it is a tough question to what extent we can succeed. Industrial revolution has widen the gap of income between the top and bottom, in the era of 3rd and 4th intellectual Revolution it is going to be even more gaps. Also, it might create a level of inequality among the society. The keynote presenter concluded his presentation with statements on the future of Bangladesh in adapting digitalisation. He said that for a country which is still based on agriculture, it will be a tough task to shift the people to the latest Industrial revolution and in the era of digitalisation. And to achieve this government involvement is very necessary. As evident, the future of work will be in all four IR domains: from RMG investment to Digital Bangladesh, we will be everywhere. The scenario for South Carolina RMG investors and the investors from Bangladesh is different. The risks and chances of gaining is high for the RMG investors in Bangladesh. With the IR 4.0 fulcrum shifting towards Asia, Bangladesh may make the least mileage among the 'gainers', but it has enough resources to be in that 'gainer' box. The whole world is moving to a high profile for living and Bangladesh needs more and more skills to cope up with that.

After Dr. Imtiaz, the chair added some concluding remarks. He talked about some concerning issues about education for digitalisation sector; it is necessary to have specific sectors of education for specific subjects such as Applied Mathematics, self driven automated car which is very important for the South Asian countries. Developing countries cannot follow the developed countries everywhere and their way of developing. At times students do not have the knowledge to know what would be appropriate for them to work for further. There have been projects for AI skill development which will send people overseas to learn about and train about the use of AI. In this digital revolutionary era, it is possible to apply for jobs online and on the basis of some eligibility and information anyone can get the job. And in this regard, without education and internet it is not possible to cope up. People who are knowledgeable enough should be brought together to work. The chair thanking the keynote presenter concluded his speech.

Question & Answer Session

Question from Audience 1- Speaking of Bangladesh, not the other countries who already have been developed in terms of technology and weapons. When a weapon is made with advanced technology, it is necessary to test that weapon before applying anywhere. Bangladesh is working on projects with the World Bank and other international actors. But there are some implications in terms of cyber security and digital security. And if the security is breached Bangladesh will be greatly affected. So for a country like Bangladesh, how can the security be ensured?

Question from Audience 2-What is the basis of Smart City management for circular economy? How can megacities, such as Dhaka and Kolkata could be managed for circular economy?

The second day of the two-day international conference consisted more presentations on the implication of digitalization. The first session of the day was chaired by Mr. Zakaria Swapan, founder and CEO at iPay Bangladesh, and the keynote presentations delivered were on the

topics 'Understanding the Impact of Digitalisation on Society' and 'Towards a Digital Economy: Digitalisation of Financial Market and Economy', by Ms. Ruwanthi Jayasekara, Research Assistant, Institute of National Security Studies Sri Lanka (INSSSL), Sri Lanka, and Mr. Parvez Karim Abbasi, Assistant Professor at Department of Economics, East West University, Bangladesh. After lunch, all the presenters and audience members engaged in a conversation with the panel. The highlight of this segment was that BIPSS and KAS brought in young teenage high-school students from two prestigious educational institutions- Baridhara Scholars Institute School and College, Aga Khan School and College, whose interaction portrayed the awareness of the youth generation regarding the fast spreading digital revolution occurring in the country and worldwide, and its implications. The conference ended with a panel meeting with the press, and the entire afternoon session which had convened after lunch was chaired by President of BIPSS, Maj. Gen. ANM Maniruzzaman, ndc. psc. (retd.).

Working Session 03

After catching up with the discussions of the previous day, the international conference convened with the third working session. It was chaired by Mr. Zakaria Swapan, founder and CEO at iPay Bangladesh. He started off by highlighting that the topic of the session should be enlightening to the audience members, as it is very important for the socio-economic development of the country in a world where digitalization is spreading rapidly. He also gave a summary of the content of the keynote presentations just to give an insight of what the audience should expect. He also mentioned the increased adaptability of the people to digital technology in Bangladesh, and how when he wrote an article, in 2000, about people celebrating eid in the US would easily contact and share their experiences with their parents at another location of the global, in Bangladesh, people considered his insane. The changes that have taken place in society hand-in-hand with the digital revolution, such as access to knowledge through articles, videos and pictures, as well as sharing of fake news via the provision of digitalization were also stressed by the chair of the session, before he gave the stage to Ms. Ruwanthi Jayasekara, Research Assistant, Institute of National Security Studies Sri Lanka (INSSSL), Sri Lanka.

Ms. Ruwanthi Jayasekara

Keynote Presentation By Ms. Ruwanthi Jayasekara, Research Assistant, Institute of National Security Studies Sri Lanka (INSSSL) Sri Lanka

Understanding the Impact of Digitalisation on Society

Living in the 21st century, the world is transformed to a digitalized system with major significance on what is big data. Hence, to be more acute with her presentation, Ms. Jayasekara chose to cover the narrowed-down topic of 'The Dire Need of Big Data and Foresight Analysis in Sri Lanka in the Age of Digital Revolution.' Big data has always played a part in the shifting and molding of policies domestically and internationally since the emergence of the internet. She shed light on two scenarios besides that of Sri Lanka–one from Singapore and the other from China, and finally recommends the various uses of big data for foresight analysis for developing states. Quoting Dr James Bellini, that "information is the oil of the 21st century," she highlighted the importance of big data in the any field of the world in the contemporary time.

After defining "Big Data" as a term encompassing the use of techniques to capture, process, analyze and visualize potentially large datasets in a reasonable timeframe not accessible to standard IT technologies, and as high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation, Ms. Jayasekara attributed the terminology with the key features of volume, velocity and variety. Volume refers to the large amount of data sets, while velocity is the transaction of large data from one place to another, resulting into high data streams coming at great speed, and variety refers to the fact that data can come from both internal and external sources, as well as a variety of pattern of data. She claimed that in order to achieve the expected outcome of big data are enhanced to provide analysis and process automation, which are part of foresight analysis. Further, the presenter introduced different types of big data -- web

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data, text data, time and location data, smart grid and sensor data, and lastly, social network data. The prior three lead to the social network data, which may consist of personal data or even state sensitive data. This describes the gravity of big data because it can twist and turn the digital way of the world. Therefore, big data should be handled with care and should undergo thorough analysis, and that is where foresight comes in handy.

Next, with the definition given by the United Nations Development Program (UNDP) to the term 'foresight analysis,' which is to "construct contingency plans for undesirable but possible and probable scenarios, while creating policies that capitalize the transformational possibilities of preferred futures, moving from foresight and insight to strategy and action," the presenter explained it to be the analysis of current trends leading to possible future patterns and changes, and should the future not look desirable the foresight analyst has the opportunity to take up an alternative, and take actions accordingly. The presenter asserts that there are two sides to it, namely the state and the non-state. It is essential to remember that it is not the sole responsibility of state, but rather both state and non-state have to draw insights to big data so foresight analysis can be done. She also highlighted two key variables, which are availability of resources, referring to those available or not to draw the foresight analysis, and the size of a particular organization, which is also one element of whether sufficient resources for deriving foresight analysis will be possible. The four types of foresight analysis, according to the big data UNDP, were also discussed, which are mainly strategic foresight, participatory foresight, revolutionary foresight and transformative foresight.

The correlation between big data and foresight analysis, and its corresponding importance to the society was then featured through the case studies of China and Singapore, after the highlighting of five very important cause-effect links–that of national development, industrial upgrades, emerging interdisciplinary research, better perception of the present and better perception of the future. The connection of big data and foresight in the case of national development refers to its key position in a range of activities, from sustaining the development of economic growth by ensuring competitive performance of companies, to ensuring the security through advanced technologies and militarization of the state so that it cannot be breached. For the second aspect of correlation, big data and foresight can help assess the demand of specific industry, as well as provide insight regarding whether there can be an evolution, i.e. from primary industry to secondary industry, and from secondary industry to tertiary. Big data is also emerging as a new area of interdisciplinary research, attributed by its wide span of academic reach. Big data analysis also provides better insights of the present, and can help in the foresight of future, thereby giving us knowledge of whether to perceive desirable or undesirable things, and if the latter, then how to take an alternative path or alleviate the harms that may come with it. The speaker then moved on to case of China, firstly highlighting the use of big data as self-driven in nature, which has allowed vehicles like taxis, police vehicles, emergency ambulance and such to access the fastest route to a location via digital media. It has also allowed vehicles of all types in assessing parking space in a particular complex, which saves a lot of time. Next, the presenter highlighted the case of pollution in China, which according to World Health Organization (WHO) is the biggest non-military threat to the country. Big data and foresight can be used to derive information such as when to close down nearby factories or schools, and when to limit the number of cars on the road

that could actually reduce the carbon print. Hence, the government, in order to get access to such big data, is inviting companies like Baidu, Soguo, WeChat and derive foresight analysis to solve the issue of energy consumption and that of swapping non-renewable energy with renewable energy. The next sector of highlight is the massive emergence of online courses, which allows knowledge accumulation through online classes for students. Here big data was used to predict and develop online media as a space for educational knowledge exchange, as per the demand and requirement for the service. Through this information on people, dropout rates, disabilities also accumulate.

Next, she covered scenario of big data and foresight in Singapore. Singapore has never known the luxury of not planning for the future. It has improved socio-economic status of the people, leading it to become an Asian Tiger since the 1990s, and one of the core aspects of this development was the well managed analysis of foresight. Ms. Jayasekara highlighted that the development of Singapore originated from the Ministry of Defence, when it spread propaganda of problems of the world, giving floor to the second stage, where the Prime Minister set stage for these functions to transfer from the military to the prime minister's office in 1995. They launched multiple programs such as public welfare, 21st century movements, risk assessment, horizon scanning programs, etc. Other than that think-tanks under the direct control mechanism of the prime minister are also used to conduct foresight garnering activities through conferences, roundtables, seminars, and so on. The Ministry of Trade and Industry Futures Group assess the global economic order and international market patterns to help gain foresight for economic interests of the state, and design policy prescriptions in the economic sector. One of the projects that they are enrolled in is the Asian Frontier, which assesses the future of the global market from an Asian perspective. Next, the speaker talked about the recent Vision 2025 of Singapore Police Force, which targets foresight since the beginning of the training. The big data collected in this case is best to defend the positive impacts of digitalization, through foresight analysis.

Drawing from the two cases, the presenter then assessed putting the print of the framework on a Sri Lankan scenario. In both contexts of China and Singapore, big data has been used as a successful instrument of development via increased perception and planning for the future. In case of Sri Lanka, foresight analysis has been seen as a great success in regard to governance. One of the problems for foresight, however, is that it is very theoretical and abstract to base policies on. China has been more successful in using big data to achieve its strategic interests than Singapore, but Singapore has overcome the latter in terms of foresight. However, in the case of Sri Lanka, and in the case of all developing countries, the slow realization of long-term impacts of policies taken by the government is a great pitfall, as it makes the state vulnerable to the harms of undesired outcome. As in the case of digitalization, the lack of quick grasp of long-term implication leaves the loophole of negative forces to influence the digitalization process.

Sri Lanka's digital transformation began in the 1980s, when computers first began entering homes, and was further enhanced when people started accessing mobile phones and later Smartphones. In the sector of communication and technology it has developed solutions that target public sectors, public reforms and speedy digitalization of public services. It also assists the enhancement of information movement in a faster and much more acute manner than ever before, allowing

people of the country to be informed not only of news from family, friends and colleagues, but also that of the state's policies and activities. When it comes to the pre-election scenario period, it has become common for the people to take their opinions on the social media. This allows various non-state and state entities to gather information about what the people want and/or look for the new elected government body to be able to do. There is also the release of online polls, which reflects the popularity of an individual or party standing for election. However, the use of these big data to analyze the future trends does not occur in sufficiency when it comes to the electoral sector in Sri Lankan context. Hence, there is high possibility of a party to tap onto this kind big data, giving foresight to what kind of policies should be adopted in order to achieve success in electoral scenarios. In terms of crisis management, during the issues of terrorism, it has been a trend to block social media for days until the situation becomes peaceful. Apart from this, the filtering of hate speech on social media and other forms of allows the development of perception of ideas present among people that may either divide or unite them, a majority against a minority, or vice-versa. Even data on travel can be analyzed to find trends in tourism to maximize the benefits and minimize the negativities of future consequences. Specific policies, which may provide public outlines, are crafted with insight gained about possible trends of the future. Rather than developing an alternate scenario, this helps assess whether the methods that are currently in use is effective or not.

Lastly, the speaker introduced some recommendations. She asserted to gear up foresight to solve issues and create a good impact to the society with better alternatives, this is what Sri Lanka should focus on. In order to limit post-connectivity challenges, Sri Lanka should focus on digital literacy initiatives, which will allow the mass people better knowledge about digital media, ensuring proper technical standards for web and digital applications, addressing gender disparities in digital technology and web use, safeguarding individual privacy and data protection online, enhancing cyber security at both individual and institutional levels, as well as containing state-sponsored cyber surveillance of citizens' private communications via email and chat applications. Considering all that, the Ms. Jayasekara believes that a participatory approach of big data and foresight is best suited in the context of Sri Lanka in the age of digitalization. The government, however, has not been able to pay enough attention to big data and foresight in its governance and strategic methods of making policy decisions, and achieving policy outcomes. Other stakeholders operating with the government can help the latter achieve this common good.

To conclude, the presenter again stressed the importance of big data and foresight in order to gain insight to the future trends and avoid any threats to national, economic, or societal interests. She also pointed out that even though it is highly important most seem to not understand the definition of the concept, let alone its affectivity.

The presentation was followed by remarks by the chair, who compared the proportion activities of human beings to be very minute with that of the vast and wide universe and the milkyway. He also asserted that, as in the case of Sri Lanka, Bangladesh should also follow the lead of China and Singapore to accomplish development and create safer and more sustainable societies. Following the complimenting remarks, Mr. Zakaria then introduced Mr. Parvez Karim Abbasi and gave him the floor.

Mr. Parvez Karim Abbasi

Keynote Presentation by Mr. Parvez Karim Abbasi, Assistant Professor, Department of Economics, East West University

Bangladesh Towards a Digital Economy: Digitalisation of Financial Market and Economy

Mr. Abbasi begins with a brief breakdown of digital economy. The breakdown was as follows: what is technological change and how it impacts the economy, secondly, an understanding of FinTech, thirdly, certain cases of digital media use in banking and non-banking sectors, and lastly, some examples from Bangladesh. Next, the speaker highlights the demanding stature of the phrase 'digital' in Bangladesh and its value, as he speaks of how digitalization has become a prominent plan for the Government of Bangladesh (GOB) to take the country to newer heights. Considering technology specifically, there are two core aspects that must come under consideration: what is the speed of technological change, and what is the speed of its diffusion?

As more and more innovations are made the older ones are shown the door, and this initiates a round of competition. Hence, technology is good with the highest rate of competition, according to the presenter, who added further the prime character of technology of allowing higher output despite having limited resources. Therefore, the statement is made that investing in RMD is an effective way for countries to achieve higher economic growth. That takes us to the application

of digital technology and media to the financial sector, or in other words, FinTech. According to the European Union Parliament finance enabled by new technology is able to be defined as falling under Fintech, while the World Economic Council defines it to be innovation in the financial technology. Mr. Abbasi, defined FinTech in a very simplified form simply as the application of digital technology in the financial sector. In context of what aspects of the financial sector can be impacted or already has been impacted by digitalization, these include standard routine payments, lending and funding, insurance, cyber security, operations, and lastly, communications. As advantages of FinTech, the speaker lists reduction of marginal costs, reduction in transaction costs for lenders as well as borrowers, increase in productivity of banking and non-banking sectors, fourthly, greater scope of financial integration, democratization of financial access to credit, and last, but not the least, raising the competition bar, which increases the quality and quantity of credit. As everything in life is with a yin-yan, to digitalization of financial sector the disadvantages include possibility of data breach, as recorded in 2016, when there were 3000 data breaches every minute. Other than that, the issue of greater job losses also exists, side by side with the problem of lack of uniformity of standards.

The presenter then moved on to show a few cases of FinTech applications in the contemporary times. One is the block-chain, or digital ledger technology, which allows the safe transfer and storage of information for credit transactions. It is centrally controlled, and to access this, one must be verified by all the users, thus making the usage safe. It also involves heavy cryptography. The advantages of use of this technology include faster payments to customers, as banks now have been bestowed with the ability to process the transaction quicker. Secondly, banks can reduce their operation costs too, because the number of employees required for the job is greatly reduced. It also reduced the chances of banks being involved in fake receipts, and this particularly pertains to developing countries like Bangladesh, as financial scams are rampant in such countries. As the block-chain technology uses codes and cryptographies, any undue changes made in the financial sector will be reported by it, encouraging a greater degree of transparency. Hence, it cuts down banking frauds. Another advantage of block-chain makes for faster insurance payouts, and streamlining of mortgage payments. Today we also see the use of block-chain in Smartphone tracks. If Smartphone tracks were used, there would a cut down of costs worth $3 to 11 billion in US and Europe alone. The disadvantages of block-chain include the fact that it is error-prone, as its codes are still being developed by human beings, who themselves are prone to error.

The second case of discussion was big data in the financial sector. Here, the speaker again defined the concept in simpler terms, as any form of data including video clips, audio clips, pictures, or multimedia data from Smartphones, computers or elsewhere. Banks use big data analysis to record unquantifiable info. Big data has the capacity to transform this soft information, which is unquantifiable, into hard data. This is done by prediction via foresight analysis, which banks utilize when dealing with customers. As such, the advantages of use of big data analysis in banks is that it helps predict and suggest the kind of expenses that a customer can bear, future loan repayment capacities, mortgage disbursements, etc. There is also lower risk for investment on the side of banks. Investment management is also possible via big data and foresight analysis. Cloud technology allows the storing of unlimited data, which financial organizations can utilize to manage and store data, thereby reducing costs. It also offers innovative tailored solutions, which

means that the IT program will only charge for the cost incurred for the level of use by a financial company. Apart from these, the speaker also mentions the Internet of Things, the Internet of Everything, AI, biometric technology, chatbox, etc.

Bangladesh is not far behind in terms of technology, according to Mr. Abbasi, where banks are the forefront of providing technologically enhanced services. These services include credit cards, ATMs, online banking, mobile banking, etc. The latter is regarded as a spectacular case in the country, and this is due to the access of 87% of the population to internet on their phones. However, only 47% had access to proper formal banking. After 2011, after mobile banking and mobile wallet had been introduced, Bangladesh had 120% growth in number of banking accounts. The compound growth of mobile wallet worldwide is 15%, while in Bangladesh it is 30%. As for number of registered users, the country has 50 million of registered users of mobile banking and mobile wallet, according to data provided by Bangladesh Bank. He also points out that there are currently 18 mobile banking companies working in the country, and lists the reason for their success. Firstly, he notes the massive increase in digital shopping via the internet, secondly the introduction of QR Codes, thirdly, certain cashback offers provided on certain methods of payment, a strategy used to make digital money transaction via mobile popular in the early stages, and number four is discounts being offered. Lucrative trade of around US$380 million is conducted through digital financial methods of mobile financial services last year. The introduction of mobile financed has also reduced the depth of grey economy, as it allows cleaner receipts made by the government.

The presentation was then followed by a Question & Answer session.

With the background of man-made climate change and its effects in place, the first audience member to raise a question to the speakers asked whether digitalization can help curb the impacts of climate change.

This question was answered by Ms. Jayasekara in a brief concise manner, highlighting the effectively of Big Data and Foresight Analysis in the case of tackling climate change. The digitalization of climate data provides fundamental building blocks for climate change adaptation and disaster management in Mozambique was used as an example. The rescued climate data is used to produce a National Rainfall Atlas to improve the knowledge of spatial and temporal variability in Mozambique and associated risks (e.g. droughts, desertification, floods, etc.), which help subsistence farmers to use this information for the improvement of their crop yields and better adapt to rainfall related risks. The availability of data also enables the scientific understanding of climate processes and variability and application of this knowledge to forecast impending disasters and issue warnings. The seasonal rainfall forecast, which is an important planning instrument for the agriculture and disaster management sectors, will be improved with the use of these rainfall data. Availability of such data also allows governments of all developing and developed states

alike to take up policy prescriptions that are climate-friendly, and plan ahead of any disaster induced by climate change.

Mr. Abbasi also added some more points to the answer of the question rose, underlining 'Smart Solutions' to problems of climate change we face today. To deepen the understanding of the drivers and barriers relevant to digitally enabled climate friendly technologies that can be adopted and are already in use, he analyzed four examples:

– Collaborative logistics (example of smart logistics): Digital sharing of logistic assets among companies in road freight transport can increase the utilization of assets and reduce carbon emissions per ton kilometer. Flexible use of logistic assets can be a part of the "Industry 4.0" vision. Policies are needed to avoid an increase of demand for transport as a reaction to lower cost (rebound effect).

– Demand side management (DSM) in electricity consumption (example of smart energy): DSM supports the integration of renewable energies into the electricity grid and increases capacity utilization of existing infrastructure. For example, the operation of dishwashers could be postponed to shift the power consumption to times of lower demand or higher supply. Technical and regulatory standards are needed to enable adoption.

– Co-working (example of e-work): Digitalization is continuously increasing the portion of work that can be done independent of location. Active utilization of office space is low on the average, while the GHG emissions associated with building space are high. Co-working spaces can increase office space utilization, reduce commuting distances and provide advantages compared to home-office work, such as the possibility to have physical meetings. This trend is slowly on the rise in Bangladesh as well.

– Car sharing (example of connected private transportation): The leading role of car sharing could be used as a starting point to develop innovative car sharing schemes, such as free-floating car sharing, other than the already established examples set by Uber, Pathao, Obhai, etc in Bangladesh. Cooperation between public authorities, public transport companies and car sharing providers is necessary to extend coverage of innovative car sharing schemes.

The next question was raised in regard to what are the aspects of early legitimization of digital forms of services and education. A second question was raised by the same audience member as she illustrated the decreasing instances of human-to-human contact as greater numbers of digital mediums arise, and what the implications of this may be. Both questions were addressed to Ms. Jayasekara.

The speaker, firstly, highlighted the access of online courses all around the globe, including examples of renowned institutions like MIT, Harvard, Australian National University, University of British Columbia, and such that increasingly offer online courses for both educational and soft skill build up. The increased acceptance of such online courses has given it an automatic legitimization. Other than that, it has become important in all fields that employees should show utilization of skills picked up either in formal or informal educational settings they experienced. Therefore, the legitimization of such online courses depends on human skill development and utilization, as much as it depends on its acceptance worldwide. To the second question, the speaker acknowledged the danger of alienation from human-to-human contact, and the problems that might bring about. Here, she quoted Mr. Abbasi's saying that where there is a yin, there is a yuan, and that increased digital advancement is essential to development. She also stressed how digital media has reduced the cost, time and effort to reach loved ones that may be far away. With the dial of a phone number a daughter can easily contact her mother who may be living in another country,

in a different continent. Immediate response communication methods such as online messaging, online calls, etc. have made older, more time consuming technologies such as faxing or sending letters by mail redundant. Other than that digital technology has also enabled the shrinking of distance around the globe.

A member of the student body present in the audience asked regarding how the youth can make contributions to their societies with the blessings of digital media.

To this question, Mr. Abbasi answered that the digital media has created a vast range of scope for the youth to utilize and benefit the society. This ranges from innovative ideas for young entrepreneur start-ups online, to creation of awareness campaigns, to the invention of newer applications to benefit the global society. Digitalization has also enabled several youths of the country to pursue freelancing, thus bringing in foreign currency into the country sitting at home.

Conversation with the Panel

One of the highlights of the conference was the opportunity of the audience and the press to engage in an active conversation session with the panel members, and talk about the most pressing matters and implication of digitalization as we see it. The session was moderated by the President of BIPSS, Maj. Gen. ANM Muniruzzaman, ndc, psc. (Retd).

After a few words of appreciation, the moderator of the session underlined the specialty of the session that would be its dedication to young students from Aga Khan School and Baridhara Scholars' institute School and College. The moderator stated that it is very important for the next generation to understand the future of work as their world would be a very different one. They must comprehend the changing world in order to become successful and lead the nation in the days to come.

The session began with short introductions of the panelists, along with a brief about their respective presentations in order for the youths to gain some insight about the previous day and the morning session of international conferences.

The first question posed by a student was regarding 3D printing and what implication that could have in their future, and the future of the country.

The question was taken by one of the panelist members, who began with the acknowledgement that 3D printing is not something that is widely available to the developing world yet. But with the

current rate of digitalization, it is likely that this technology, like all others, will reach the shores of the developing world soon. In the field of construction work, it is likely that cheaper, faster and safer alternative relative to more traditional construction will be pursued.

3D printing has already proven to be an innovation in the field, as seen in the case of China, where they were able to build 10 one-story houses in a day, shrinking a process that could take months, into just a span of hours. In the field of medicine, he spoke of the innovations of developing more efficient hearing aids, organ printers or bioprinters, prosthetics, digital dentistry, bionics, etc. to help handicapped people gain a better life. 3D printing is also used for production of goods as small as ornaments like rings, to vehicles as big as aeroplanes. This technology is also being utilized in the clothing industry, as more and more fashion companies are using 3D printers to experiment newer innovations. For example, Nike made the 2012 Vapor Laser Talon football shoe and New Balance custom-fit shoes for athletes using a 3D prototype in commercial scales. 3D printing is also being utilized 3D printing for an integrative learning curriculum, with applications from printed molecule models to plastic gears. Students are now able to print their prototype models in 3D and it helps in the learning process of the students. Students are better able to understand concepts as it can be practically shown to them. Hence, for students of today, what they can expect out of 3D printing tomorrow is a bounty of possibilities that no one even imagined would be possible a few decades back.

Another student, with the background of predicted large number of job losses and shrinking of the job sector, raised the question of how can students of today take precautions for tomorrow when they enter the job field.

One of the panelist members the concerned query of the teenager by, firstly, highlighting United Nations Sustainable Development Goal 8: achieving decent work for all and inclusive and sustainable economic growth. Equipping young people with digital skills, in particular advanced

digital skills, and providing them with entrepreneurship opportunities, as well as the required skills in the job market of the age of digitalization is essential to secure the future of the youths of today. There will be tens of millions of jobs for people with advanced digital skills in the coming years, with some economies predicting a talent gap for workers with advanced digital skills, and others ranking ICT specialists among their fastest-growing roles. While young people are often considered "digital natives", the majority of them do not actually possess sufficient job-relevant digital skills to fill vacancies. Governments, social partners, the private sector, academia, civil society and other key stakeholders need to ensure that young people are equipped with the digital skills to benefit from employment and entrepreneurship opportunities to build an inclusive digital economy and society. The panelist also made four recommendations to help the youth of the society achieve the skills they need in the job market of tomorrow.

- Helping young people make the most of online work platform via skills to secure relationships or contracts, good connection to the online world, a strong link to the Internet of Things (IOT), which is slowly transforming into the Internet of Everything, access to computers, and other required logistics that may not be available to the lower strata of the society. This will also help reduce income inequality among future generations.

- Providing digital skills training to young people is essential for them to be able to achieve the required skills they need to face the job market of tomorrow. Specifically in Africa, digital jobs extend far beyond the business process outsourcing industry. Digital skills have become increasingly valuable across different functions. For example, there is a high demand for digital skills in sectors such as retail, hospitality, tourism and financial services.

Across functions, digital skills can make young entry-level candidates more competitive for sales, customer service, human resources, data management, and information technology positions, not only in Africa, but worldwide.

- Helping young people to achieve the skills that employers need is also very important, as there will be a shift from more analog jobs to ones that rely on technology. If employers provide input into curriculum design and data about what makes a high-performing employee for them, trainings can be customised to nurture the right skill sets and attributes. Meeting the identified training needs of youth workers at all levels, from introductory basic skills training to professional development and bespoke courses, and with a focus

on the practical application of skills is essential, and this can only be done by individual practice after the lessons of honing such skills is dispersed. Taking from another Africa example, the panelist adds tight-knit connections to employers and demand-oriented program design resulted in high job placement rates across the Digital Jobs Africa training programs, leading to up to 90 percent job placement in some cases for trained youth.

- Providing soft skills and workplace simulations also give access to training of real-life workplace scenarios in a safe, virtual environment for young people to prepare for the future. It teaches young people how to manage their time once they have a job, and how to deal with conflict in the workplace. It also enables young people to improve their communication, collaboration and resilience in professional settings.

With the background of all around access to digital media devices, and the problem of social isolation of people faced today, the third question asked by the student body was in regard to the possible steps that can be taken to tackle the issue.

In regard to the question of isolation, drawing example of how even toddlers use digital media technology, the answering panelist expresses that while people may be isolated offline, they are more active online and not isolated at all. With the greater integration of digital media in the lives of all generations and people belonging to all stratas of society, online activity, as in the present, will become a greater form of social contact. However, she also added that personally she believes that a balance is required between interacting online and offline and that this realization must come from our own individual selves, rather than being dictated by increasing digital evolution.

The next question posed was in regard to the easy proliferation and spread of fake and forged news via the internet, and how can its impact be curbed or mitigated.

One of the panelist members answered this question by bringing to fore the method of cross-checking with reliable sources of news media, such as the New York Times, for example. If the news is from an unknown blog, it requires extensive cross-checking before it should be believed by the reader. For news of events that cannot be verified, the panelist suggested that it is easier to not believe them, rather than believe in something that is a lie. But if the issue is a rampant occurrence, the news is bound to appear in more prominent news media sources, whether national or international, and such reliable news media should be consulted. Secondly, he pointed out that believing in fake news is also related to the psychology of a person; if a person is skeptical, for

example, he or she is more likely to believe that negative element of the fake news. Thirdly, he recognized the issue of education. While both factors discussed previously are factors that are apparent to educated individuals, who can thus take the steps to investigate the fake news before they believe it, the problem really lies with those who are not educated, as they are more likely to put their blind faith on fake news. Hence, education should is made more accessible to people for it to have the ripple effect of creation of a less gullible state.

Another panelist member added an example of Indonesia, where fake news is a big problem. In response to this, different NGOs work to spread the verifiable facts out for people to judge whether to believe or not to believe a piece of news. The NGOs also go to different parts of the country to train people to not fall victim to false information. For this to work, greater public and private integration is essential, as well as people's willingness to educate themselves of the facts of reality.

The question of the fifth student was set in the background of the fact that the current education system of Bangladesh, based on memorizing and writing the memorized knowledge on a piece of test paper, is not the best system of education in the world. Hence, the question that followed was regarding how can there be a shift of education so that students can contribute in the age of digitalization.

In regard to this question, one of the panelist members acknowledged it to be a system that is present not just in Bangladesh, but as a general system in Asia. The lack of practicability of such system is a threat to the future of the youths, as they will lack the required skills to exist in the

digitally world of tomorrow. Hence, it is recommended that students should have the ability of creative thinking, so that they can self-learn the skills they need, or get training from institutions outside their academics. She also spoke of another strategy that is being explored by Singapore is the concept of growth-mindset and fixed-mindset; here the prior refers to those who will be willing to adapt to the changes in the future brought about by digitalization through gaining new essential knowledge and undergoing training, while the latter refers to those who would not be as willing and active to adapt to the change. Hence, education systems can pick up on these aspects and educate students on the basis of their psyche, not to change them, but to prepare them to face the digital world.

Another student raised the question of whether there will be mass job losses, as projected by societal concerns and, if so, a subsequent question was asked regarding how can the those who are likely to lose their jobs also be protected in the age of digitalization.

A panelist member shared his reflection on the issue, beginning with the acknowledgment of the undeniable fact that hundreds of thousands of jobs will be lost and there will be uncertainty and struggle, and that governments must take precautions and prepare for this future. Governments should be able to take care of their own people, side-by-side provide them with the logistics and training required to tackle the problems created by the replacement of labour based capital by digital technologies.

To the second question another panelist, firstly, shared her belief that unlike a lot of the predictions made, digitalization will also lead to job losses of not only the low-skilled employees, but of the high and medium-skilled employees too. The reality of this is that there will be job losses and there will be hardships, from which there is really no way of protecting the people. Hence, it is advisable that the skills required to survive in the job markets of tomorrow be equipped today, so that people do not have to suffer from lack of assurance and uncertainty.

The chair added to this concerning thought that the question, instead of asking what is apparent and obvious, should rather be rephrased to ask what can be done to stabilize those who are projected to go through the hardships of unemployment and re-integrate them into the job market in the digital age.

Another question was raised regarding how smart city solutions can be implemented in developing countries like Bangladesh.

To this one of the panelists answered with the background set that as the global population rapidly moves into urban settings, the need for smart city solutions are increasing at faster rates. This leads to increased requirements of smart urban space management. This change is also bringing in digitalization in creation and management of smart cities and the cities of the future. A city is smart when investments in (i) human and social capital, (ii) traditional infrastructure and (iii) disruptive technologies fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance. In smart city management the key roles and administration is led by digital platforms and through the process of digitalization. The governance and management of these smart cities will be based on multiple

digital platforms of management all integrated into one digital hub. It will not only be more efficient and cost effective, the digital process will also bring in more transparency and accountability in the governance process. Starting from the way we live and work to energy management, urban mobility, health care delivery, education system, water and waste management, social connectivity, law enforcement, etc. all will see a definite footprint of digitalization. It will also move us towards a more sustainable urban future as it will shift us from a linear economy to a circular economy where emphasis will be on recycling and reducing pollution of any kind, which can truly be called a Circular City. This will make cites more green and eco-friendly. Finally a combination of AI and IOT will enhance the management of cities to new levels of efficiency that will dramatically improve the quality of urban living in the digital age. Smart cities emerge out of smart solutions fueled by a combination of disruptive technologies and social innovation across multiple sectors, such as economy, standard of living, sustainability and so on. It incorporates of these remedies with changing human behavior, via the use of data and innovative technology. These innovations include social robotics, gamification, sharing economy, connectivity through social media, artificial intelligence, renewable energy, 3D printing, crowd sourcing, etc.

The concern over the connection of environment and the digitalization found the basis of the next question rose, which asked what the possible impacts of digitalisation on the environment are.

Digitalisation can lead to newer innovations such as the discovery of solar panels, by which electricity to further enhance digitalisation revolution can be achieved in a more environment-friendly manner. Other than that, the undertaking of cleaner and greener technologies for greater digitalisation process, or vice versa is stellar examples of mutual inter-twinning of environment and digitalisation. For example, invention of electronic car has led to reduced carbon emissions, while innovative services like car-sharing, as well as online purchase and delivery services have also contributed to reduction of environmental degradation fueled by carbon dioxide emissions.

The last question asked by a student was in regard to the algorithms used on social media and how can individuals see what they need to see as opposed to what they want to see on social media.

The panelist who first took this question replied to it by saying that the social media wall cannot be blamed for this alone, and to make this right, it is individuals behind the social media accounts that should correct themselves and view content that would be useful to them as opposed to what is not.

Conclusion

The session concluded with some closing remarks by the chair, with special appreciation towards the young audience members for their contribution of time to the conference. The President of BIPSS summed up some key take-away points of the session. Firstly, he highlighted the proven fact that there will be mass unemployment in the labor-intensive job markets, as well as high and medium-skilled job markets. This will be intricately linked with hardships and exponentially efficient performance by enhancement of digital technology. The second point highlighted, is that of the need of reorganization and reframing of academic system in Bangladesh to provide the young generation of today with skills without which it will be difficult to imagine survival in the world of tomorrow. Thirdly, the scale of level of education and educational competency must be transformed to a dual scale, or a multi-scale system, where both academic education and the skill set of students are both assessed to train them for the future. The fourth highlight made is that of use of digital technology to achieve the benefits that could not be achieved in the past of the analog society. The fifth point of stress was the importance of digital knowledge in order to promote sustainable growth and development of today and tomorrow.

The importance of the youth participation lies in the fact that their insight and their queries are perennial aspects in order to grasp a picture of the perception of Bangladesh in regard to the digital revolution globally. The session, along with the rest of the conference, was appreciated for the paramount educational experience it provided to the young and the old alike, highlighting what the future of the digital world would be like, by the panelists and the audience members. A special note of thanks was delivered to the speakers of the conference for contributing some of their knowledge on the matter of digitalisation and providing an enlightening experience.

ANNEX

Program Schedule

Programme
Day – 1
02 September 2019

Time	Session	Programme/Activity	Speaker	Chair
09:30am – 10:00am		Registration for Participant		
10:00am – 10:05am	Opening Session	Welcome Remarks by President BIPSS	Maj Gen A N M Muniruzzaman, ndc,psc (Retd) President, BIPSS	
10:05am – 10:10am		Welcome Remarks by Director Regional Programme Political Dialogue Asia, KAS	Mr. Christian Echle Director Regional Programme Political Dialogue Asia, Konrad-Adenauer-Stiftung (KAS)	
10:10am – 10:30am		Address by the Chief Guest	Mr. Mustafa Jabbar Honorable Minister, Post and Telecommunications Division, Ministry of Post, Telecommunications and Information Technology, Government of People's Republic of Bangladesh	
10:30am – 10:50am		Morning Tea & Refreshments		

Time	Session	Programme/Activity	Speaker	Chair
10:50am – 10:55am	Working Session 01	Opening Remarks by Chair		Dr. Fahmida Khatun, Executive Director, Centre for Policy Dialogue (CPD)
10:55am – 11:25am		Keynote Presentation: Digitalisation and Governance in 21st Century	Dr. Diego Maiorano, Visiting Research Fellow, Institute of South Asian Studies, National University of Singapore	
11:25am – 11:55am		Key note Presentation: Digitalisation: A vehicle of the New Age of Transformation	Mr. Dhruva Jaishankar, Fellow, Foreign Policy Studies - Foreign Policy, Brookings India	
11:55am – 12:55pm		Q & A Session / Discussion		
12:55pm – 01:00pm		Closing Remarks by Chair		
01:00pm – 02:00pm		Lunch		
02:00pm – 02:05pm	Working Session 02	Opening Remarks by Chair		Mr. Parvez Ahmed, Managing Director, CompTech Network System Pvt Ltd
02:05pm – 02:35pm		Keynote Presentation: Digitalisation and Smart City Management	Dr. Moonyati Yatid, Senior Analyst, Technology, Innovation, Environment and Sustainability Department, ISIS Malaysia	
02:35pm – 03:05pm		Keynote Presentation: Digitalisation and Industrial Revolution 4.0 : The Future of Work	Prof. Dr. Imtiaz A Hussain, Head, Global Studies & Governance Programme, Independent University, Bangladesh (IUB)	
03:05pm – 04:05pm		Q & A Session / Discussion		
04:05pm – 04:10pm		Closing Remarks by Chair		
4:10pm		Tea and Networking		

Programme
Day – 2
3 September 2019

Time	Session	Programme/Activity	Speaker	Chair
10:30am – 11:00am		Morning Tea & Refreshments		
11:00am - 11:05am	Working Session 03	Opening Remarks by Chair		Mr. Zakaria Swapan, Founder & CEO, iPay Bangladesh
11:05am – 11:35am		Keynote Presentation: Understanding the Impact of Digitalisation on Society	Ms. Ruwanthi Jayasekara, Research Assistant, Institute of National Security Studies Sri Lanka (INSSSL), Sri Lanka	
11:35am – 12:05pm		Key note Presentation: Towards a Digital Economy : Digitalisation of Financial Market and Economy	Mr. Parvez Karim Abbasi, Assistant Professor, Department of Economics, East West University, Bangladesh	
12:05pm – 01:05pm		Q & A Session / Discussion		
01:05pm – 01:10pm		Closing Remarks by Chair		
01:10pm – 02:00pm		Lunch		
02:00pm – 03:00pm		In Conversation with the Panel	All Speakers	Maj Gen A N M Muniruzzaman, ndc, psc (Retd) President, BIPSS
03:00pm – 03:45pm		Panel Meets the Press	All Speakers	
Closing Session				
03:45pm – 04:00pm		Conclusion & Closing Remarks by President, BIPSS	Maj Gen A N M Muniruzzaman, ndc, psc (Retd) President, BIPSS	
04:00pm		Tea and Networking		

CV of Speakers

Dr Diego Maiorano

Dr Diego Maiorano's research focuses on India's politics and political economy and on political and economic change in developing countries, with special reference to the themes of poverty and inequality. He is currently leading a research project funded by the Swedish Research Council titled 'The Paradoxes of Empowerment – Women, Dalits and Employment Guarantee in India'.

Prior to joining ISAS, Dr Maiorano was Leverhulme Trust Early Career Fellow at the School of Politics and International Relations, University of Nottingham, United Kingdom. He has a PhD in Political Studies from the University of Torino, Italy.

Dr Maiorano is the author of Autumn of the Matriarch – Indira Gandhi's Final Term in Office, published by Hurst & Co./Oxford University Press/Harper Collins and several academic articles published in leading academic journals. He also contributes to The Wire, the Indian Express, The Hindu and other newspaper as well.

Dhruva Jaishankar

Dhruva Jaishankar is Fellow in Foreign Policy Studies at Brookings India in New Delhi and the Brookings Institutionin Washington DC. He is also a Non-Resident Fellow with the Lowy Institute in Australia, and is a regular contributor to the Indian and international media on international affairs and security. Jaishankar was previously a Transatlantic Fellow with the German Marshall Fund (GMF) in Washington DC from 2012 until 2016, where he managed the India Trilateral Forum, a regular policy dialogue involving participants from India, Europe, and the United States. From 2009 to 2012, he was programme officer for Asia with GMF. Prior to that, he worked as a research assistant at the Brookings Institution in Washington and as a news writer and reporter for CNN-IBN television in New Delhi. In 2015-2016, he was a Visiting Fellow with the South Asia Programme of the S. Rajaratnam School of International Studies at Nanyang Technological University in Singapore. Jaishankar holds a bachelor's degree in history and classics from Macalester College, and a master's degree in security studies from Georgetown University. He has been a David Rockefeller Fellow with the Trilateral Commission and an IISS-SAIS Merrill Center Young Strategist.

Dr Moonyati

Dr Moonyati is Senior Analyst in the Technology, Innovation, Environment and Sustainability Programme of the Institute of Strategic and International Studies (ISIS) Malaysia. Her research focuses on issues related to technological advancements and innovation, with interests on digital economy, Artificial Intelligence (A.I), Internet of Things (IoT) and SME development. Her past projects include consultation work for the World Bank Group on the innovation terrain in Malaysia. Previously, she drove efforts on organisational improvements in the oil and gas industry, which comprises change management, resource optimisation and business improvement initiatives. She holds a Ph.D. in Human-Computer Interaction from University of Sydney, Australia where her works focused on human behaviours and their correlations with collaborative software and hardware tools. She obtained her bachelor's degree of Engineering in Design and Information Sciences from Wakayama University, Japan, with a dissertation on integrating culture in designing groupware.

Imtiaz A. Hussain

Before opening the Global Studies & Governance (GSG) Program in Independent University, Bangladesh, from 2016, Imtiaz A. Hussain created/taught numerous International Relations/IPE courses for 25 years (Philadelphia University, Universidad Iberoamericana). His written works include: South Asia in Global Power Rivalry (Springer, 2019), Transatlantic Transactions (Palgrave Macmillan, 2018),North American Regionalism (Palgrave, 2015), Evaluating NAFTA (Palgrave, 2013),Border Governance and the 'Unruly' South (Palgrave, 2013), and Afghanistan-Iraq and Post-conflict Governance (Brill, 2010), among his 20-odd books, and articles in South Asian Journal (2018), Encyclopedia of U.S.-Latin American Relations (2012), Handbook of Global Security and Intelligence (2008), South Asian Survey (2008), Politics & Policy (2008), Journal of the Asiatic Society of Bangladesh (2006), & Norteamérica (2006), not to mention his newspaper columns in Dhaka's Daily Star("Kautilyan Kronicles") and Financial Express("Scopus"). Several fellowships/teaching awards in/from Canada, Mexico, and the United States otherwise dot his career since his Political Science Ph.D. (University of Pennsylvania), in 1989.

Ms. Ruwanthi Jayasekara

Ms. Ruwanthi Jayasekara is a Research Assistant at the Institute of National Security Studies Sri Lanka: national security think tank under the Ministry of Defence. She is appointed as Sri Lankan Node Secretary of The Millennium Project, a global think tank under the Government of the United States. She also interned at the Ministry of Foreign Affairs, Sri Lanka. Prior to that, she was the Manager of AIESEC Outgoing Corporate Internships during 2016/17. Ms. Jayasekara is an immediate graduate from the University of Colombo, Sri Lanka with an Honours degree in International Relations. She was awarded a scholarship from George Mason University in the United States in partnership with Hong Kong University to follow a summer course on International Political Economy in July 2019. She has won awards and recognition including the 'Best Young Leader' at AIESEC in 2017 and the 'Best Position Paper' at the National Youth Model United Nations in 2016. She was the President of the school UNESCO Club. She is interested and written papers in the areas of cyber diplomacy, Indo-Pacific, national security and foresight analysis.

Parvez Karim Abbasi

Parvez Karim Abbasi, is an Assistant Professor at Department of Economics at East West University, Bangladesh. He has completed his MA in Economics from York University, Canada as a York University scholar. He has completed BS in Economics from North South University, Bangladesh. As part of his MA dissertation he examined the impact of economic crises on the overall politico-security situation of a country. His research interests are in the field of Geoeconomics, Geopolitics, Political Economy, Contemporary History and Security issues especially focusing on implications of Indo Pacific Strategy and BRI for South Asia and beyond.Mr. Abbasi has several publications to his credit including An Article titled "The New Great Game", was published in the Trending Events periodical, issued by Future for Advanced Research & Studies of UAE in 2016.

He is a member of the Strategic Studies Network (SSN) of the Near East South Asia (NESA) Center for Strategic Studies of the US National Defense University and has attended a number of conclaves of the network. As part of the SSN he was part of a working group that looked at the issues of Geoeconomics across the NESA region. In addition to his stint at East West University, he has also lectured at several public universities in Bangladesh. He is a regular commentator on television and writes for newspapers and periodicals on contemporary issues of geopolitical and geo-economic import.

Abstracts of the Papers Presented by Speakers

Digitalisation and Governance in 21st Century
Dr. Diego Maiorano

The spread of digital communication tools has changed significantly how political leaders interact with the electorate and how governments and society interact. However, while the means through which these interactions take place are new, the underlying dynamics are not dissimilar from those that arose in the past. This paper has two objectives: first, it will argue that some of the issues that the digital revolution has brought to the forefront of the political discourse are not so new. And, second, it will argue that the basic problem that the digitalisation of politics raises is a threefold conflict of interests of governments, traditional media and technology firms that makes it difficult to regulate the digital space.

Digitalisation: A Vehicle of the New Age of Transformation
Mr. Dhruva Jaishankar

The digitisation of information has had profound and transformative effects for domestic and international politics, economics, and security. A first wave of digitisation was closely tied to globalization and accompanied a period of democratization, the growth of financial markets and services trade, and an era of network-centric warfare and signals intelligence. We are now at a cusp of a new wave of technological breakthroughs which may reverse some of these effects. These include breakthroughs in artificial intelligence, quantum cryptography, 5G telecommunications, machine learning, and cyber physical systems. Taken together, the enabling applications could result in reversals to democracy, data (and by extension, trade) protectionism, and offensive military behaviour. A variety of steps will need to be taken by countries, individually and collectively, to ensure that the new wave of digitalization is positively harnessed.

Digitalisation and Smart City Management
Dr. Moonyati Yatid

The rise in global urban population craves for smarter, safer, healthier and more efficient environments that better serve their residents. Today, in the era of the Fourth Industrial Revolution, advancements and convergences of technologies pave the way for rapid progress of smart city developments. These cities utilise emerging technologies such as the Internet of Things (IoT), as well as network infrastructure to deliver new urban and social objectives, which includes the optimal efficiency of a city's operations and services, among others. China, the United States of America and ASEAN are among nations who have experimented in creating smart cities of their own towards developing digital economies and ultimately smarter societies. Malaysia has carried out several smart city initiatives such as in Kuala Lumpur, Penang and Kota Kinabalu, where some of the projects leverage on regional collaborations. For example, Kota Kinabalu, under the ASEAN

Smart Cities Network, is collaborating with the South Korean government and public enterprises in realising its potential as a smart city. Even though smart cities bring many positive outcomes, some negative impacts have come to the fore such as cyber security and environmental issues. Developing smart cities also create some 'side effects' – inequality and the exclusion of some communities. This paper aims to discuss the challenges faced by Malaysia in carrying out these initiatives, and proposing several ways to move forward. Among the challenges identified are the importance of soft infrastructure, awareness and education in using smart technologies optimally as well as cooperation and collaboration with external partners. Moving forward, several solutions in terms of encouraging inter-country cooperation and collaboration, managing cybersecurity risks as well as privacy concerns, will be explored.

Digitalisation and Industrial Revolution 4.0: The Future of Work
Prof. Dr. Imtiaz A. Hussain

"Digitalization and industrial revolution, 4.0" breaks the perception of 'artificial intelligence' dropping down from the sky one bright morning, like a squadron of jet-fighters (Fountaine, McCarthy, & Saleh, August 2019), with robots, drones, and the bite to displace all antiquated skills (Friedland, 2019). Consistent with the patterns of the last three 'industrial' revolutions', this study finds the fourth so ingrained in our everyday experiences already, making the term 'revolution' meaningless. If 'digitalization' carries 'magic' (Rosol, Steininger, et al., 2018), we have missed it in the last half-century, meaning IR 4.0 will hardly differ structurally from IR 3.0 (Furr & Shipilov, August 2019). The key difference between IR 4.0 and IR 3.0, on the one hand, and IR 2.0 and IR 1.0, on the other (Merritt, 2016), is how an 'intellectual' catalyst ('software' knowhow) has displaced the 'physical' ('hardware' knowhow, as with low-wage labor); and though too glacial to be called a 'revolution', the difference carries a long shadow (Zysman & Kenney, February 2018): plentiful labor supply in IR 1.0 and IR 2.0 permits wage manipulation, but IR 3.0 and IR 4.0 permits complete labor elimination.

Regardless, "The future of [IR 4.0] work" still carries the paradoxical IR 1.0, IR 2.0, and IR 3.0 features: machines replacing humans on one front, but also on other fronts (a) more humans to program newer technologies (b) a greater 'social revolution' bang than 'digital', typically evident a posteriori than a priori, given how retarded the net human cognizance is (c) the original asymmetrical playing-field becoming even more asymmetrical, yet laced with more material possessions to conceal the widening gap (Chakraborty, May 2019); and (d) by pushing beyond the man-machine limits, making human displacement more feasible (Barro & Davenport, Summer 2019).

The study suggests (a) superior classroom training as essential to an effective work future (Palak, July 2019); and (b) multiple individual jobs to make ends meet, without even fringe benefits (like pension), and demanding 'jacks of all trades' from the population, with a smaller change-making elite-level 'master of a specific trade'.

Understanding the Impact of Digitalisation on Society
Ms. Ruwanthi Jayasekara

Entering the digital transformation since 1980s, Sri Lanka as a developing nation has come up the ladder in computer literacy and digital literacy with improvements in the Networked Readiness Index. Artificial Intelligence (AI) has bolstered the prominence of the world system. Every minute is a stimulation of artificial intelligence harvesting big data, through which foresight analysis take place. Yet, the significance of big data is not paid sufficient attention in Sri Lanka and this has led towards ignorance and inadequacy in foresight analysis. This research paper tries to define big data and significance in foresight analysis, analyzing the co-relation, which have captured the global attention with the fourth industrial revolution. Even though the private sector has geared up in big data and foresight analysis, the public sector has not invested in much needed big data analysis. From Singapore to China, big data and foresight are viewed as eminent and influential factors in the 21st century. Determining examples from powerful and emerging states, the study will conduct an investigation into Sri Lankan context with special attention paid to three fields, naming governance, education and research. With the current trends, Sri Lanka do possess the potential to implement big data and foresight analysis, if existing gaps are bridged in the digital era by cooperation between state and citizens. Unrelated political, social, economic and security data can be transformed to a consequential pillar of information through accurate foresight analysis in the age of digital revolution.

Towards a Digital Economy: Digitalisation of Financial Market and Economy
Mr. Parvez Karim Abbasi

A cursory search online regarding ongoing technological changes would definitively lead to three frequently used terms holding pride of place, "the Fourth Industrial Revolution", "Digitization" and "Digital Economy". The Government of Bangladesh has incorporated "Digital Revolution" as a part of its ambitious long ranging and overarching plan to usher in structural changes that would provide dynamic impetus and open new frontiers for the economy in a competitive globalized milieu. The paper attempts to identify the possible benefits (reduction of transaction costs, widening financial inclusion etc.) and pitfalls (redundancy, re-skilling, breach of privacy) of the impact of digitization on the financial sector in general and Bangladesh in particular. It also examines the emergence of Fintech and its probable applications such as Block chain Technology, Big Data, Cloud Technology etc, on the Banking and non-Banking sectors. It also briefly looks into the phenomenal growth of Mobile Financial Service (MFS) and the Mobile wallet market in the country and possible move to a cashless society in the near future.

Workshop on

"The Age of Digital Interdependence"

Multi-stakeholder forum on the Report of the UN Secretary
General's High-level Panel on Digital Cooperation

Welcome Remarks and Round of Introduction

Dr. La Toya Waha, Senior Programme Manager KAS Regional Programme Political Dialogue Asia

We are pleased to have you all here. We have come here today to discuss about the report of UN on 'The Age of Digital Interdependence'. We have come here today because Konrad Adenauer Stiftung was asked by UN to help and support their work with regard to the UN report on digitalisation and digital cooperation. We were asked to provide support with workshops all over the world to discuss the results and recommendations of the report. This is a great opportunity for all of us to know about the work and insights of United Nations. She then gave the floor to all the participants to give their introduction. I will start my presentation by giving a short introduction of the background of the report. I will then talk about the challenges and risks that have been identified in this report. I will then introduce to you and read out the recommendations of the report. Then we will go into the working groups. I will provide you with the opportunity of tasks and then the opportunity to regroup the working groups. At the end of the day, we will have group discussions. UN Secretary General António Guterres has launched a High-Level Panel on Digital Cooperation to address the socioeconomic impacts of digitalization in order to maximise the benefits and minimise the harm.

It was also an important idea to look into the sustainable development goals. It was also significant that the working groups and creates models for digital cooperation in order to advance the governance in the digital sphere. The aim was to reproduce the proposals to strengthen the collaboration in the digital space for governments, private sectors, civil societies, international organizations, the technical community, the academic community and all other relevant stakeholders.

There were representative from all forms of countries. There were Co-Chairs from Bill and Melinda Gates Foundation. Jack Ma of Alibaba was also incorporated into the panel as Co-Chair. The report on digital cooperation has defined ways to work together in order to address the societal, ethnical, legal and economic access in order to maximise the benefits. The report itself consists of five chapters and an introduction. Chapter 1 is named as Introduction: Interdependence in the Digital Age. Chapter 2 is named as Leaving No One Behind. Chapter 2 deals with the subtopics: creating an inclusive digital economy; rethinking how we work and learn; regional and global economic policy cooperation. Chapter 3 is named as Individuals, Societies and Digital Technologies. Chapter 3 is concerned with the subtopics: Human rights and human agency; trust and social cohesion; security. Chapter 4 is named as Mechanisms for Global Digital Cooperation. Chapter 4 deals with subtopics: challenges and gaps; three possible architectures for global digital cooperation; the role of the UN. Chapter 5 is the final chapter which deals with the recommendations. Four working groups are divided work according to separate topics. Working group 1 and 2 will work on 'An Inclusive Digital Economy and Society.' Working group 3 and 4 will work on 'Human and Institutional Capacity & Human Rights and Human Agency.' There should be groups with people who come from different backgrounds. The working groups are requested to answer all the following questions to the given set of recommendations.

Working Groups

Working Group 1

Mr. Reza Shamsur Rahman: Some key words should be refined. Data provided to the public can be vague. Every adult has access to digital network. However, it is a big challenge to reach people as the promotions and maintenance mechanism is not sufficient. The government in recent times had taken initiative regarding financial organizations. By 2030, the goals can be achieved because the government is acting taking proper steps. We have mobile banking which is used by farmers so that they can make use of it in bigger extent. There are security issues regarding abuse of data. About the hospital we have limited number of hospitals. We can take initiative like video conferencing and telemedicine for rural people. We can make location and make doctors school in divisional level recommending medication. There is no shared understanding. Micro-credit is common in Bangladesh for the last 4 or 5 decades. Interest rates have risen to 60% and there is no limitation over the interest rates from Grameen Bank and BRAC.

Mr. Ahsan Habib: He mentioned within few years there will come new innovation in medication and health ministry. The government is funding indefinite incubators. It costs USD 10000 and only available in very few hospitals. Dr. Rabanni invented devices through which people can be accessed and more should be made. In the second question, we are in the stage of preparation. We have to focus on construction policy like government level. Another thing is that for health issue, there is no central data base. We can provide electronic health card. It must be integrated with NID and Insurance. Government takes some percentage in return. The policy is to bring banking sector in right track. Government is funding and the ministry is not fully clear. One precondition is strong partnership between public and private sector. Introducing policy such as e-health card is a feasible solution. Education should be rethought entirely. From primary and secondary level, there should be focus on creativity. New generation of students should be given access to analytical and critical thinking.

Mr. Asif: Bkash right now is single largest mobile financial provider in the world. We are miles behind in terms of access to loan and capital. Sellers ran out of cash as they are losing out customers. They need to find the fine balance along with date to manage the stocks. Small shops lack access to such credit and RMG workers especially women have been lagging behind getting access to loan. They are charged high rates and are expensive. BRAC and Grameen Bank do not have sufficient capacity to cover such people. I am working with BRAC and they have product called Dabi and are trying to come up with digital app. It will assess the risk which of providing loan. In manual ways, there is biasness involved and outside incentive .This will reduce the biasness and will make the process efficient. There is skepticism towards healthcare. ICDDRB has a low cost solution to life support. Government has to work more on the realistic framework.

Mr. Asif: There are bits and pieces and there should be mechanism to connect them all. Funds of the new startup companies can go in vain because of no collaboration. In China what happens is Chinese government invest in startup companies with the provision of seed money. We need rural level digital outlets as government needs to ensure rural level digital service. Accountability system

of government officials is a very significant matter for a developing country like Bangladesh. There are different road maps and different targets. We should reflect to what we are going to export. There would a target on export of software and target should be set. Economy is capitalistic and education is socialistic. 12 years of school is a useful solution and it is very effective in USA. Only people with ambition should pursue tertiary education. Valuation of certificate should be given to a huge extent.

Ms. Bushra Altaf Chowdhury: Capacity building is to reduce social inequality government to provide subsidy for technologies such as training workshops. There is a lot of progress in the technological advancement. Focus should be made more on Smart NID as it covers a huge population compared to passports. IT literacy and tech adaptation were emphasized. Capitalistic system entirely does not fit the model since Bangladesh is a mixed economy. In Asia, Bangladesh cannot be the only country to adapt to capitalistic system. Filtering the education institution is a must.

Working Group 2

Most of the members in the group were agreed that all the recommendations are realistic. All ready few recommendation have implemented in Bangladesh where it will take a little more time to implement the rest of the recommendations

Mr. Shihab Ahmed: To ensure about precondition and framework conditions Shihab Ahmed mentioned that women in most of urban area have adopted the digital policies but the women in rural area don't get the facilities of using the modern amenities. Besides, most of the private & multinational companies have adopted the digital policies but the government companies are still using the backdated technologies.

Mr. Khurram Zaman: He said that internet data price is very high. It should be cheaper. Besides, the tax on smart phone and other digital gadgets should be decreased. Mr. Zaman suggested that mentality of governing bodies should be changed. All the members of governing bodies should not take treatment in abroad so the people will believe in the medical system of own country.

Mr. Nayeem Murshed: He stressed that government should concern on government health service. About the reconciliation of E Commerce it can be said that E Commerce is a new trend in Bangladesh. Mainly youth are involved with E Commerce. But there are no proper laws for customer protection. The government has not yet formed any proper tax law and competition law. Beside nowadays another trend named F Commerce or Facebook Commerce which is run through Facebook and it is completely out of the control of government. Government telecommunication service named Teletalk should be more efficient.

Mr. Khaled Saifullah: Mr. Khaled Saifullah agreed that Bangladesh has already developed in financial transaction. Bkash, U Cash etc have made easier the financial transaction from any place to another. Currently there is a Government Financial Transaction system run by Bangladesh Post Office named "Nogod". About dealing with the advantages and disadvantages of FinTech and digital payments, Mr Saifullah has talked about several advantages. Most common advantages are ease of transaction in short time, paying bill or utilities, use in other personal issues. Besides all these advantages, some disadvantages were also found. Most of the disadvantages are facing fraud call or scam call, hacking the account and debiting a huge balance etc. About ensuring harness technology for better health services, Mr. Saifullah mentioned currently Bangladesh has not developed in Digital Health Service. There are not so much options for digital health services except a few named Tonic by Grameen Phone, Prava health service. Mr Saifullah proposed that for better health technology it should be implemented in both rural and urban areas. There can be portable Diagnostic Centers. Health Insurance should be introduced where the premium should be as low as possible.

In the need of platform for the free exchange of digital public goods, the members agreed to have such a platform. The platform should be ensured in both rural and urban area. So people can capable of using the modern technologies and also be aware of misuse and disadvantages of the modern technologies. In regard to this, UN should cooperate with the private sectors maintaining government policies.

Working Group 3

The working group 3 worked on consensus to prepare the answers to the given questions.

First of all, there should be an agreement and willingness from the perspective of existing regulators and legislators to be educated. Do the existing regulators and legislators have a complete idea of the process of digitalization? Legislators need to be given adequate training on digital issues. Training needs to be conducted by international experts. Regulators and legislators need to be given adequate training on a regular basis in order to develop their knowledge base on the issue of digitalization. They need to understand the economic consequences of an overregulated digital space.

Countries which are growing their capacity in the digital space need these helpdesks. These helpdesks will provide service to government, private sector and civil societies. A group of experts need to be available for governments and other actors to consult.

- The helpdesks primarily need to be regional and can be established under the United Nations who would be seen as a neutral actor. Equal number of representatives to form an international body is important. Organizations should be diverse.

Policy guidelines alone are not enough. Appropriate legislations should be enacted so that companies have an obligation to take human rights into account while developing digital technologies. An international watchdog needs to be created to oversee proper implementation of local guidelines.

Individuals need to have a better understanding about right to privacy and why they need to have more control about their personal data. The school curriculum needs to inculcate knowledge of internet hygiene. More awareness through traditional/digital methods on potential risks of data theft is necessary. The mass people do not know about the access to information they are giving to the companies. The current design of the end-user license agreement for applications and websites is complicated and most non-user friendly. Consumers need to have full awareness about the terms of services. The part concerned with data sharing needs to be bolded out.

We note serious interests about this issue in civil society but little interest among private sectors and governments. Increasing private sector awareness and interest is also crucial. Interest may not be inherently there but interest needs to be generated.Private sector entities need to have human rights bodies or individuals within their organization. National human rights commissions of individual countries also need to have oversight of this issue. Video advertisements may be created to generate better awareness among people. Anonymous services should be taken through the internet. Educational institutions can be at the forefront of conducting this service within their classroom to create a better understanding among the students.

The recommendations are realistic in the context of an advanced country but perhaps not realistic enough for developing countries. The recommendations section of the report should be translated into different languages and presented in the form of an infographic for greater awareness. The recommendations can be implemented but there may be a lack of willingness to implement these recommendations. The technological mismatch between countries will also be a hindrance in implementation. Implementations need to be timebound and overseen. The recommendations do not talk about what incentives there may be for the private sector which is necessary.

Countries need to have a degree of parity in terms of technological innovation in order to implement the Panel's recommendations.

Precondition and Framework conditions

a. Government should fund IT and Internet literacy platforms. IT kiosks need to be created at the rural level in order to increase awareness and literacy, however, the adequate instructors need to be there.

b. Just distributing hardware is not sufficient in order to spread the knowledge, awareness building needs to be a holistic exercise.

c. The recommendations need to be well publicized and not confined to a report. The people need to be made aware of the importance of these recommendations.

d. Contests and competitions may be created in order to create more awareness among the populace about the impact of digitalization and how it will affect people's lives

e. The impact measurement of this report and other such reports need to be transparent and effective. Recommendations unless they are implemented are not sufficient. The UN and other relevant agencies need to work closely with CSOs and private sector in this effort.

Working Group 4

Mr. Khaled: Bangladesh has developed in financial transaction. Bkash, U Cash has facilitated the financial transaction from any part of Bangladesh. For better health technology service, it should be implanted in both rural and urban areas. There can be portable diagnosis lab. Health insurance should be introduced in Bangladesh. The premium should be as low as possible. Fin Tech has many advantages. People can pay bill conveniently. Digital awareness is very important.

Mr. Ahmed: Women in most of urban area have adopted the digital policies. Most of the multinational companies have adopted the digital policies but not the other countries. E-Commerce is a new trend in Bangladesh which is mostly utilised by the youth of our country. Currently there are no proper regulations.

Mr. Khan: Government should be mostly concerned on provision of health services through digital technologies.

Mr. Aman: Data price is high and it should be cheaper. Government telecommunication service should be more efficient. Corruption should be removed from buying land. The political mentality of the nation should be changed. Prime Minister should take treatment in our country so that the people will believe in the medical system in our country.

Ms. Sarah: Disadvantages of Bkash are that customers can face fraud. These calls are generally

done by the officers who have left the job and have knowledge about the loopholes of the software. Facebook and WhatsApp are the key global social platforms of the world. Facebook should reform their policies of reporting any form of content. The violence of the content may vary from one region to another. So, Facebook should be more concerned about any form of content related to violence. UN could do a tech regulating summit or conference.

Group Discussion of the Workshop

There was a question concerned with digital cooperation and the collaboration of digital cooperation among countries. There was also a question on the role of UN regarding digital cooperation. There was emphasis on problems Bangladesh face in terms of digital cooperation. The platform regarding digital public goods is vital for our country. The round up approach from scratch towards solving problems of Bangladesh with regard to digital cooperation was discussed. Sharing information and networking of experts is a must. Bangladesh has no access to all the information and solutions. This platform is required for Bangladesh to know how to solve the problems concerned with digital cooperation. There are efforts on how to capture digital data from a handwritten text. There should be networking with certain experts who worked on similar issues before to get insights and work in parallel. Knowledge body can also be effective in this case. Many digital tech companies are rising as there is high amount of export and import of digital knowledge sharing. Disputes have been witnessed among the nations. Huawei is a classic example where they had to come up with their own software after facing problems in USA. UN could conduct annual digital technology summits where there will be representatives from all sectors in order to create an impact. There will be constraints put by countries which are protective

in case of sharing their digital technologies. UN can give guidelines so that sovereignty of certain countries is not breached. UN Capital Development fund can provide funds and mentorship to the startup companies. There is no research body which can build the policies of the government and further incorporate the young generation.

There was a question on the enforcement of rules. UN can collaborate with experts from certain countries in order to create the rules. UN can carry out online services to acquire knowledge from the global youth. There was also a question on incorporating youth. UN should consider government and other agencies while incorporation youth. UN can come up with steps which are acceptable to the government. There can be facilitators who can act as a channel to the UN. Facilitators can be the point of contact about requirements, formulation of policies and the type of approach. UN should have a dedicated group of team to deal with such issues. There was a question on whether UN is the adequate body to play a significant role in the process. The ethical part of the goal of digitalization was emphasized. Human rights values should also be restored. UN has the power to motivate the regulatory bodies. The big technological companies are driving the process of innovation and they need to be incorporated. Big companies are driving away the business prospects of the small companies. There was a question on limitation of the big social media companies. It is significant to make the social media companies accountable. The repercussions of the social media are vast as they go along with the culture of the West. The definition of a problem varies from one country to another. Social media giants should be willing to pay a huge amount for data breaches if the data privacy of users is violated. Data security should be a major concern of the social media companies. Social media companies can be used as a propaganda machine as it became evident in recent years. UN and other multilateral agencies should play a role in the process of accountability of these social media companies. There should be a system regarding technology audit to monitor the type of content that is accessible on the social media.

We are passing through the age off disinformation and fake news. The Christchurch incident clearly showed failure of Facebook where the video was not removed in due time because of the over-dependency on AI. The companies should be made liable and they should have an obligation to filter data. The end-user license agreement and service agreement of the software should be made more legible and more accessible to the authorities. We are in an age where tech companies are growing more powerful as the sphere of influence of the tech companies continues to grow. EU came up with the concept of a SIM card which was accessible to all the EU member states. We have to look at the harmonization of rules and regulations of the tech companies in order to make them accountable to respective governments and international monitoring bodies. The human rights liability and the human rights awareness of the companies should be taken into account. Surveillance technology that is manufactured can also be an abusive element. UNESCO and other organizations have projects which need to be implemented. UN is the only body which can deal with the tech companies without any form of national prejudice and other interests. Bypassing mechanism will not work in case of UN. UN can hold a special conference to invite CEOs of different tech companies and treat them as representatives of certain countries. Data privacy is a major concern for example in case of Facebook there is an option to download all the Facebook data before deactivating the account. Facebook also collects phone call, contact address, phone

messages, the places we moved and literally all other related information as soon as Facebook app is installed in your phone. Snapchat is watching you every moment using the camera on the phone. Educating legislators and the whole idea of helpdesk is a significant sector where UN can make most contribution. Cyber hygiene and data protection are fields where UN can play a major role. UN can play the role of a facilitator like they did in case of carbon pricing according to the Paris Climate Agreement. The guidelines and the directions should be set by UN rather than enforcing them. There is a gap between the parents and child in most families where UN can raise awareness regarding this aspect.

Group Notes

WORKING GROUP 1

An inclusive digital economy and society | Part 1

1A: We recommend that by 2030, every adult should have affordable access to digital networks, as well as digitally-enabled financial and health services, as a means to make a substantial contribution to achieving the SDGs. Provision of these services should guard against abuse by building on emerging principles and best practices, one example of which is providing the ability to opt in and opt out, and by encouraging informed public discourse.

1C: We call on the private sector, civil society, national governments, multilateral banks and the UN to adopt specific policies to support full digital inclusion and digital equality for women and traditionally marginalized groups. International organisations such as the World Bank and the UN

should strengthen research and promote action on barriers women and marginalised groups face to digital inclusion and digital equality.

1D: We believe that a set of metrics for digital inclusiveness should be urgently agreed, measured worldwide and detailed with sex disaggregated data in the annual reports of institutions such as the UN, the International Monetary Fund, the World Bank, other multilateral development banks and the OECD. From this, strategies and plans of action could be developed.

Guiding questions for discussion:

› How realistic are the recommendations? Is it likely that the recommendations can and will be implemented?

› What kind of preconditions and framework conditions are necessary to implement the Panel's recommendations?

› How can we avoid that already marginalized populations are further excluded, social inequalities are exacerbated, and the digital gap intensifies social inequalities?

› What is your take on the status of digital inclusion in Bangladesh?

› Which role do marginalised groups play in the Smart Nation agenda? Do you feel that it is sufficiently covered and future-ready?

› How could digital inclusion be measured in Bangladesh?

› Do we need to rethink education entirely? How can education gain from digitalisation?

› What skills are needed for future jobs? What kind of education do we need to provide for the future workforce?

› What role could partnerships between the education sector and the private sector play?

Reza Shamsur Rahman- Some key words should be refined. Data provided to the public can be vague.

A- So point 1A if I see the first question in my opinion I agree that it is okay that every adult has access to digital network. However, it is a big challenge to reach people with the promotions and maintenance mechanism is not sufficient. Some extent can be reached by not all by the year 2030. The government in recent times had taken initiative regarding financial organizations.

Ahsan Habib- By the year 2030 we agree with the proposal that the government is acting that way. We have mobile banking service, which is used by farmers and gradually more and more farmers will be included in the mobile banking system. There are security issues regarding

abuse of data. When comes to healthcare facilities, we have a limited number of hospitals. Thanks to implementation of digital technologies, we can take initiative like video conferencing and telemedicine for rural people. We can select locations and establish medical schools at the divisional level for recommending medication for a certain disease.

A- Within few years there will be new innovation in medication and health ministry. The government is funding a number of incubators. It costs USD 10000 and only available in very few hospitals.

Ahsan Habib- Dr Rabanni invented devices through which people can be accessed and more should be made.

Mr. Asif – The financial service Bkash right now is single largest mobile financial provider in the world. We are miles behind in terms of access to credit and capital. Sellers ran out of cash as they were losing out the customers. They need to find the fine balance between the dates to manage the stocks. Small shops lack the access to such credit and RMG workers especially women, are lagging behind getting access to loan. The existing financial services charged high rates to the customers and mostly expensive for the people. Only a few organizations such as BRAC and Grameen Bank do not have sufficient capacity to cover such huge number of people. I am working with BRAC at the moment and we have a product called Dabi and are trying to come up with a digital app. It will assess the risk related to providing loans. In manual ways of doing this, biasness can be involved and outside incentive might be at play. This will reduce the biasness and will make the process efficient. There is skepticism towards healthcare services as we do not have any

unified standard in our country. ICDDRB has a low cost solution to life support

A. Wants to talk on the context of BD.

D. for the first question it is possible.

A. What I see from the government, realistic framework is missing, not even framework and policy. The government is not fully ready yet.

Ahsan Habib- In the second question, we are in the stage of preparation. We have to focus on construction policy at the government level. Another problem is for health issues we do not have a central database. We can provide electronic health card to people at the rural areas. This approach can be integrated with NID and for financial services such as Insurance. Government can take some percentage in return for facilitation. The financial policies will bring banking sector on the right track.

A. Government is funding and the ministry is not fully clear. One precondition is strong partnership between public and private sector.

Reza Shamsur Rahman- This government has no legitimacy and is deeply corrupt and every sector is corrupt and has no accountability to anyone. There is no shared understanding. I am not sure whether they share concern with UN. Micro-credit is running for last 4-5 decades. Interest rates have risen to 60% and there is no limitation over the interest rates from Grameen Bank and BRAC.

Mr. Asif- There is bits and pieces and segmented parts so there should be mechanism to connect them all.

Ahsan Habib- There should be an introduction of policy such as e-health card is a feasible solution.

Mr. Asif- The allocated funds of the new startup companies can go in vain because of no effective collaboration that is taking place. In China what happens is Chinese government invest in startup companies with the provision of seed money.

A. for Q3.We need digital outlets in the rural areas as government needs to ensure rural level digital service.

Accountability of government officials is a very significant matter for a developing country like Bangladesh.

Bushra- Capacity building to reduce social inequality, the government should provide subsidy for technologies such as training workshops.

Q4

A. There is progress.

E. Focus should be made more on Smart NID as this will cover a huge population compared with passports.

Mr. Asif -There are different road maps and different targets.

Bushra- IT literacy and tech adaptation were emphasized.

Mr. Asif- We should reflect on what we are going to export. There would a target on export of software and target should be set.

Ahsan Habib- Revenue on IT should also be included.

Q7

Mr. Asif- I believe we should rethink education entirely as the world is constantly chnaging.

Ahsan Habib- Yes, I personally want to rethink education entirely. From primary and   secondary level we should be focus on creativity. New generation of students should be given priority to analytical and critical thinking.

Mr. Asif- Economy is capitalistic and education is socialistic. 12 years of school system could be very comprehensive like USA.

Bushra- Capitalistic system entirely doesn't fit the model since Bangladesh is a mixed economy. In Asia, Bangladesh cannot be the only country to adapt to capitalistic system.

Mr. Asif- Only people with ambition should pursue tertiary education as this form of education is not for everyone. Valuation of certificate should be given to a huge extent.

Bushra- We should filter the education institution.

Ahsan Habib- There should be educational accessibility for all. Flexible time is a serious matter of concern in the education sector.

Q8

Bushra- Most panelists agree that one particular skill is not enough to get a job. The job market is highly competitive and looks for multi-skill individuals, a departure from the idea that student with major in one discipline cannot do job in another field.

Bushra- Organisation should not be biased.

Group Notes

WORKING GROUP 2

An inclusive digital economy and society I Part 2

1A: We recommend that by 2030, every adult should have affordable access to digital networks, as well as digitally-enabled financial and health services, as a means to make a substantial contribution to achieving the SDGs. Provision of these services should guard against abuse by building on emerging principles and best practices, one example of which is providing the ability to opt in and opt out, and by encouraging informed public discourse.

1C: We call on the private sector, civil society, national governments, multilateral banks and the UN to adopt specific policies to support full digital inclusion and digital equality for women and traditionally marginalized groups. International organisations such as the World Bank and the UN should strengthen research and promote action on barriers women and marginalised groups face to digital inclusion and digital equality.

Guiding questions for discussion:

> › How realistic are the recommendations? Is it likely that the recommendations can and will be implemented?

> › What kind of preconditions and framework conditions are necessary to implement the Panel's recommendations?

> › How can we harness technology for better health services?

> › How can the growth impulses of e-commerce be reconciled with questions of consumer protection, trade regulations, competition law and tax law?

> › What is the best way to deal with the advantages and disadvantages of financial technologies (FinTech), digital means of payment (mobile money), crypto currencies, etc. on the economy and society? How can we promote financial inclusion?

Further recommendations of the expert commission and questions to be discussed:

1B: We recommend that a broad, multi-stakeholder alliance, involving the UN, create a platform for sharing digital public goods, engaging talent and pooling data sets, in a manner that respects privacy, in areas related to attaining the SDGs.

> › Is there a need for such a platform for the free exchange of digital public goods? What are the advantages?

> › What role should the UN play in such an initiative? Who/where could be a "go to" place for building a platform for these "digital public goods"?

Multi stakeholder forum on the Report of the UN Secretary General's High Level Panel on Digital Cooperation

In the morning, Dr La Toya welcomed for gathering to help and support the report of the Secretary General of United Nations. Then the participants were divided into four groups. Each group was provided a topic.

Group 2 has discussed on the recommendation of An Inclusive Digital Economy and Society Part 2.The group was consisted of four members: Mr Khalid Saifullah, Mr Khurram Zaman, Mr Shihab Ahmed and Mr Nayeem Murshed. The facilitator was Megha Sharma

Most of the members in the group were agreed that all the recommendations are realistic. All ready few recommendation have implemented in Bangladesh where it will take a little more time to implement the rest of the recommendations Mr. Khaled Saifullah agreed that Bangladesh has already developed in financial transaction. Bkash, U Cash etc have made easier the financial transaction from any place to another. Currently there is a Government Financial Transaction system run by Bangladesh Post Office named "Nogod".

To ensure about precondition and framework Mr. Shihab Ahmed mentioned that women in most of urban area have adopted the digital policies but the women in rural area don't get the facilities of using the modern amenities. Besides, most of the private and multinational companies have adopted the digital policies but the government companies are still using the backdated technologies. Mr. Khurram Zaman said that internet data price is very high. It should be cheaper. Besides, the tax on smart phone and other digital gadgets should be decreased. Mr Nayeem Murshed suggested that Government telecommunication service named Teletalk should be more efficient.

About ensuring harness technology for better health services, Mr. Saifullah mentioned currently Bangladesh has not developed in Digital Health Service. ¬There are not so much options for digital health services except a few named Tonic by Grameen Phone, Prava health service. Mr Saifullah proposed that for better health technology it should be implemented in both rural & urban areas. There can be portable Diagnostic Centers. Health Insurance should be introduced where the premium should be as low as possible. Mr Murshed suggested that government should concern on government health service. Mr Zaman suggested that mentality of governing bodies should be changed. All the members of governing bodies should not take treatment in abroad so the people will believe in the medical system of own country.

About the reconciliation of E Commerce it can be said that E Commerce is a new trend in Bangladesh. Mainly youth are involved with E Commerce. But there are no proper laws for customer protection. The government has not yet formed any proper tax law and competition law. Beside nowadays another trend named F Commerce or Facebook Commerce which is run through Facebook and it is completely out of the control of government.

About dealing with the advantages and disadvantages of FinTech and digital payments, Mr Saifullah has talked about several advantages. Most common advantages are ease of transaction in short time, paying bill or utilities, use in other personal issues. Besides all these advantages, some disadvantages were also found. Most of the disadvantages are facing fraud call or scam call, hacking the account and debiting a huge balance etc.

In the need of platform for the free exchange of digital public goods, members were agreed to have such platform. The platform should be ensured in both rural and urban area. So people can capable of using the modern technologies and also be aware of misuse and disadvantages of the modern technologies. In regard to this, UN should cooperate with the private sectors maintaining government policies.

Group Notes

WORKING GROUP 3

Human and institutional capacity & human rights and human agency l Part 1

2: We recommend the establishment of regional and global digital help desks to help governments, civil society and the private sector to understand digital issues and develop capacity to steer cooperation related to social and economic impacts of digital technologies.

› How can we improve regulators' and legislators' understanding of complex digital issues to develop and implement policies?

› Are regional/global digital "helpdesks" needed to advise governments, civil society and the private sector on digital issues and provide those with information and best practices?

› If so, who should establish these "helpdesks" and who would these experts be?

3A: Given that human rights apply fully in the digital world, we urge the UN Secretary-General to institute an agencies-wide review of how existing international human rights accords and standards apply to new and emerging digital technologies. Civil society, governments, the private sector and the public should be invited to submit their views on how to apply existing human rights instruments in the digital age in a proactive and transparent process.

› Is there a need to develop policy guidelines that oblige the private sector to take human rights into account when developing digital technologies?

› How could the right to privacy be better protected and how could citizens be given more control over their personal data?

› Is there interest among the participants of the multi-stakeholder forums to further discuss the adaptation of international human rights standards to digitization; which organizations could act as coordinators?

› How realistic are the recommendations? Is it likely that the recommendations can and will be implemented?

› What kind of preconditions and framework conditions are necessary to implement the Panel's recommendations?

2a i) First of all, there should be an agreement and willingness from the perspective of existing regulators and legislators to be educated. Do the existing regulators and legislators have a complete idea of the process of digitalization? Legislators need to be given adequate training on digital issues.Training needs to be conducted by international experts to enhance skill level. Regulators and legislators need to be given adequate training on a regular basis in order to

develop their knowledge base on the issue of digitalization.They need to understand the economic consequences of an overregulated digital space.

- 2a ii) Countries which are growing their capacity in the digital space need helpdesks. These helpdesks will provide service to government, private sector and civil societies. A group of experts need to be available for governments and other actors to consult.

- The helpdesks primarily need to be regional and can be established under the United Nations who would be seen as a neutral actor. Equal number of representatives to form an international body is important.Organizations should be diverse.

- 3ai) Policy guidelines alone are not enough. Appropriate legislations should be enacted so that companies have an obligation to take human rights into account while developing digital technologies. An international watchdog needs to be created to oversee proper implementation of local guidelines.

- 3a ii) Individuals need to have a better understanding about right to privacy and why they need to have more control about their personal data. The school curriculum needs to inculcate knowledge of internet hygiene. More awareness through traditional/digital methods on potential risks of data theft. The mass people do not know about the access to information they are giving to the companies. The current design of the end-user license agreement for applications and websites is complicated and most non-user friendly. Consumers need to have full awareness about the terms of services. The part concerned with data sharing needs to be bolded out.

- 3a iii) We note serious interests about this issue in civil society but little interest among private sectors and governments. Increasing private sector awareness and interest is also crucial. Interest may not be inherently there but interest needs to be generated. Private sector entities need to have human rights bodies or individuals within their organization. National human rights commissions of individual countries also need to have oversight of this issue. Video advertisements may be created to generate better awareness among people. Anonymous services should be taken through the internet. Educational institutions can be at the forefront of conducting this service within their classroom to create a better understanding among the students.

- 3a iv) The recommendations should be realistic in the context of an advanced country however, perhaps not realistic enough for developing countries. The recommendations section of the report should be translated into different languages and presented in the form of an infographic for greater awareness. The recommendations can be implemented but there may be a lack of willingness to implement these recommendations. The technological mismatch between countries will also be a hindrance in implementation. Implementations need to be timebound and overseen. The recommendations do not talk about what incentives there may be for the private sector which is necessary.

3a v) Countries need to have a degree of parity in terms of technological innovation in order to implement the Panel's recommendations.

Precondition and Framework conditions

f. Government should fund IT and Internet literacy platforms. IT kiosks need to be created at the rural level in order to increase awareness and literacy however; the adequate instructors need to be deployed there.

g. Just distributing hardware is not sufficient in order to spread the knowledge, awareness building needs to be a part of holistic approach.

h. The recommendations need to be well publicized and not confined to a report. The people need to be made aware of the importance of these recommendations.

i. Contests and competitions may be created in order to create more awareness among the populace about the impact of digitalization and how it will affect people's lives

j. The impact measurement of this report and other such reports need to be transparent and effective. Recommendations unless they are implemented are not sufficient. The UN and other relevant agencies need to work closely with CSOs and private sector in this effort.

WORKING GROUP 4

Human and institutional capacity& human rights and human agency I Part 2

3B: In the face of growing threats to human rights and safety, including those of children, we call on social media enterprises to work with governments, international and local civil society organisations and human rights experts around the world to fully understand and respond to concerns about existing or potential human rights violations.

> › To what extent is the private sector open and willing to deal with the protection of human rights in the age of digital technology?

3C: We believe that autonomous intelligent systems should be designed in ways that enable their decisions to be explained and humans to be accountable for their use. Audits and certification schemes should monitor compliance of artificial intelligence (AI) systems with engineering and ethical standards, which should be developed using multi-stakeholder and multilateral approaches. Life and death decisions should not be delegated to machines. We call for enhanced digital cooperation with multiple stakeholders to think through the design and application of these standards and principles such as transparency and non-bias in autonomous intelligent systems in different social settings.

> › How can it be enforced that autonomous intelligent systems be designed in such a way that responsibility and accountability remain with humans?

> › How can education make citizens aware of the need to distinguish serious information from "fake news"?

> › How can we protect political decision-making processes, especially elections, from digital attacks?

> › Would it make sense to take a kind of Hippocratic oath for technology developers in the sense of a "do no harm"?

> › How realistic are the recommendations? Is it likely that the recommendations can and will be implemented?

> › What kind of preconditions and framework conditions are necessary to implement the Panel's recommendations?

Multi-stakeholder forum on the Report of the UN Secretary General's High Level Panel on Digital Cooperation

Dr La Toya Waha

Dr La Toya welcomed for gathering to help and support the report of the Secretary General of United Nations

> ➢ Khaled: Bangladesh has developed a number of reliable financial transaction systems. Such payment platforms such as Bkash and U Cash, made easier the financial transaction, sending money from one place to another. Currently there is Government Financial Transaction Authority run by Bangladesh Post Office named Nogod.

However, digital Health Service is relatively new in Bangladesh. We do not have a lot of options when comes to digital health services, except a few corporate organizations offering such as Tonic by Grameen Phone or Prava health service in the country.

For better health technology to be flourishing in Bangladesh, the numerous services should be categorized and be implanted in different areas. We do have portable diagnosis lab that goes to the patients. We should also introduce Health Insurance to facilitate the digitalization in the health sector. The premium should be as low as possible so the general population can afford it.

One of the biggest advantages of the digitalization is the inclusion and integration of the technologies in the financial sectors. Fin Tech or Financial Technology has many advantages. People can pay any bill and it is very convenient. They can also check the status of the balance, make deposit or withdraw money from the bank account. Digitalisation is also facilitating a more transparent and tractable financial transactions.

Digital awareness is very important.

> ➢ Ahmed: Women in most of urban area have adopted the digital policies. Most of MNC have adopted the digital policies, however, other institution in the country are still lagging

behind. E-Commerce is a growing trend in Bangladesh, which is mainly run by youth. Currently there are no proper regulations when comes to the e-commerce in terms of conducting business online.

➢ Khan: Government should be concerned on health service. A huge number of people can be benefited from e-health services.

➢ Aman: Internet is expensive in our country when comparing with others in the region. The internet data charge is relatively high. It should be cheaper as more and more people using internet. Government telecommunication service should be more efficient. The political mentality of the nation should be changed. Prime Minister should take treatment in our country so that the people will have faith in the existing medical system in our country.

➢ Sarah: Disadvantages of Bkash financial services are that customers can be tricked by the frauds through phone calls. These calls are generally done by the officers who have left the job and have knowledge about the loopholes of the software.

Facebook and WhatsApp are the key global social platforms of the world. Facebook should reform their policies of reporting content. A content maybe a perceived as violent in one place and in other part it is not. So as a multi-million dollar company, facebook should be more concerned about the contexts and facts when comes to violent videos appearing in the timeline of the facebook.

UN as an organization should take an initiative of a tech regulating summit or conference.

Wrap Up

Dr. La Toya Waha, *Senior Programme Manager KAS Regional Programme Political Dialogue Asia*

We thank you for being here. Thanks for the insights you gave us and for your contribtuions to our societies. We will share your valued thoughts with UN. Thanks also to our partner Bangladesh Institute of Peace and Security Studies for inviting all these pariticipants.

Vote of Thanks

Mr. Shafqat Munir, Research Fellow, Bangladesh Institute of Peace and Security Studies (BIPSS).

The whole idea was to introduce the policy implications of digitalization in Bangladesh. There has been a lot of discussion and debate in Bangladesh about digitalization but mostly from a technological point of view. The implications of digitalization and how it impacts people is significant. We worked for this in conjunction with Konrad Adenauer Stiftung. The level of discussion was remarkable. It is about generating inputs into the policies. Thanks to all the relevant stakeholders and the participants for coming to our workshop. We would hope to continue to engage in this topic for the number of days to come. We also work extensively on the area of cybersecurity.

The full report titled "The Age of Digital Interdependence Report of the UN Secretary-General's High-level Panel on Digital Cooperation" can be read by visiting the following link: https://www. un.org/en/pdfs/DigitalCooperation-report-for%20web.pdf

About BIPSS

Bangladesh Institute of Peace and Security Studies (BIPSS) is a leading institute in Bangladesh for informed analysis on all aspects of broad spectrum of peace and security studies in the region and beyond. It is a non-party, nonprofit organisation and independent think tank which provides significant platform for the leading strategic thinkers, academics, members of civil society, former members of the foreign and armed services and media persons to chalk out a comprehensive framework for peace and security issues. The Institute is headed by the President of BIPSS, Major General ANM Muniruzzaman, ndc, psc (Retd). He directs and coordinates all research and administrative activities of the Institute. A team of highly qualified full-time researchers with varied social science background conduct research activities. BIPSS also maintains a pool of affiliated experts whom we engage frequently for different assignments.

BIPSS has also established two specialised centres within its framework named Bangladesh Centre for Terrorism Research (BCTR) and Bangladesh Centre for China Studies (BCCS). BCTR is the first centre of its kind in Bangladesh dedicated to the study and research on terrorism related issues. The Centre is headed by Mr. Shafqat Munir who has been engaged with various specialized centres on terrorism in the Asia Pacific region as well as other parts of the world. BCTR has been working in partnership with a number of international centres on terrorism research in South Asia, South East Asia, Europe and USA. On the other hand, Bangladesh Centre for China Studies (BCCS) has been established to understand, study and analyse Chinese Foreign Policy and Chinese strategic and security posture. It also aims to study Chinese economic advancement with a view to advocating greater economic and development cooperation between Bangladesh and China as well as China and the greater South Asian region.

BIPSS maintains an interactive website to inform, share and exchange knowledge and ideas to enrich the people who have a greater stake in peace and security. You are cordially welcome to visit our website at www.bipss.org.bd. You can also write to us to express your opinion via email at info@bipss.org.bd.

Report of the UN Secretary-General's High-level Panel on Digital Cooperation 'The Age of Digital Interdependence'

Video clip of International Conference on "The Digital Revolution: Understanding the Impact of Digitalisation"

House No.: 425, Road No.: 07, Baridhara DOHS, Dhaka-1212
Tel : +88 02 8419516-7 Fax : +88 02 8411309 E-mail : info@bipss.org.bd URL : www.bipss.org.bd

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