Global Forum
Shaping the future 2021

In the framework of the upcoming **Global Forum 2021/2022, that will take place on 7 & 8 March 2022, in Muscat, Oman**, five preparatory thematic webinars, featuring contributions, reflections and dialogue among key experts and interested stakeholders, are organized.

This report sums up the discussions of the Global Forum Thematic Webinar IV.

Global Forum Thematic Webinar IV

September 22nd, 2021

Health for All – Addressing Preventative Measures and Medical Interventions Adopting New Technologies

Education and Learning – Exploring Novel Ways in Making Use of Digital Solutions

Participants (78):

Ahmed Al Balushi, Halah Al Zadjali , Sylvie Albert, Wafa Almaamari, Roqaya al Tobi, Ingrid Andersson, Sherif Aziz, Pierre Bauby, Youssef Berbash, Kishore Bhatt, Jean-Pierre Bienaimé, Katherine Blizinski, Yahia Bouabdellaoui, Sladjana Cabrilo, Mareck Canecky, Danilo Cattaneo, Kay Chopard, Russ Chung, Don Davidson, Merrouane Debbah, Robert Deller, Jean-Paul Desgranges, Rohan Dsouza, Pavan Duggal, Kamel Fantazy, Elisabetta Fierro, Alexandra Fieux-Castagnet, Kevin Fitzgibbons, Jeff Frazier, Tatum Fox, Shweta Ganapati, Franco Grossi, Stephan Grumbach, Sarah Iranpour, Neil Izenberg, Amir Johri, Karen Karapetyan, Nitya Karmakar, Hugo Kerschot, Robert Klasseen, Steven Lafosse Marin, Corine Le Louel, Patrizia Legovini, Suvi Linden, Judy Logan, Tom Mackenzie, Catherine Mantel, Samia Melhem, Jeremy Millard, Eikazu Niwano, Evgenii Obraztsov, Edna Pasher, Toni Pekkola, Alice Pezard, Pascal Poitevin, Giorgio Prister, Judith Ryser, Madeleine Scherb, Hilary Sadler, Susanne Siebald, Ali Shamas, Gary Shapiro, Alan Shark, Chetan Sharma, Michael Stankosky, Johan Stronkhorst, Baïla Sow, Sylviane Toporkoff, Daniele Tumietto, Eliane Ubalijoro, Rob van Kranenburg, Daniel Van Lerberghe, Udo von Massenbach, Adam Watkins, Olin Wethington, Oriane Wiser, Paul Wormeli, Sarah Zhao.

The Global Forum Thematic Webinar IV on "Health for All – Addressing Preventative Measures and Medical Interventions Adopting New Technologies & Education and Learning – Exploring Novel Ways in Making Use of Digital Solutions" took place on September 22nd, 2021 from 13:30 to 15:00 UTC+2 via Zoom.

Bringing together nearly 80 participants from Asia, Europe, Africa, the USA and Canada, this invitation-only webinar was particularly well-attended and dynamic. The expert presentations and following discussions provided plenty of food for thought and inspiration by addressing some of the critical questions we are currently facing with regards to digitalization in health care and learning.

It was the fourth of a series of five live webinars (the next will be on December 8, 2021) devised for the purpose of feeding the framework of the upcoming Global Forum 2021.

Agenda

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¦ The Shifting Landscape of 'Ethical' Data Use in Research

Rob van Kranenburg, Founder Council IoT, Jury Member IOT Solutions World Congress, The Netherlands
¦ Disposable Identities in the Age of Digital Identity Management

Alexandra Fieux-Castagnet, PromEthosIA, France
¦ How Technology can Transform Healthcare in Africa?

Topic 2: Education and Learning – Exploring Novel Ways in Making Use of Digital Solutions

Samia Melhem, Global Lead Digital Capabilities, The World Bank
¦ Digital Capabilities for a Digital Society

Pavan Duggal, Advocate Supreme Court of India, Head, Pavan Duggal Associates/ President Cyberlaws.net/ Cyberlaws Asia /Mobilelaw.net, Member WIPO, India
¦ Cyber Security and Cyber Legal Issues facing Online Education & Learnings

Franco Claudio Grossi, Kazan State University of Architecture and Engineering, Russia Federation
¦ Education 4.0; The Next Way of Teaching

Sylvie Albert, Professor Department of Business & Administration University of Winnipeg, Canada
¦ Networked Forms of Education

Chetan Sharma, Founder & CEO Datamation Group, India
¦ Convergent Gender, Security & Protection during Pandemic Times in Health and Education Spheres

Concluding Remarks

Welcome and Introduction

Ingrid Andersson, moderating, together with Sylviane Toporkoff, welcomed the participants to the 4th preparatory webinar of the Global Forum 2021. It was reminded that there will be another preparatory webinar on December 8 before the Global Forum in Oman. **The final date of the Global Forum 2021 has been set for 7 & 8 March 2022**.

Ali Shamas, CEO, Dhofar Integrated Services, Oman, **opened the webinar with a warm welcome by inviting the participants to visit Oman on the occasion of the upcoming Global Forum 2021 in Muscat**.

Global cooperation is key in times where the world has nearly become a global village. The fourth industrial revolution is adding a new dimension to this transformation and is challenging all of us. It will bring big changes and we have to ensure that digitization is advancing all over the world. The Global Forum embodies this sense of a global community and shared experience. It shows how small the world is and how close people are. Oman is looking forward and proud to host the Global Forum/ Shaping the Future in 2022.

In terms of digitization, Oman has made tremendous progress during the past years. Today, the country is using leading-edge technologies and smart solutions in many areas. The Ministry of Transport, Communications and IT is leading in this field; however, there are many other areas, such as the utility sector relying on smart systems, smart metring, IoT, and AI. There are lots of opportunities for companies, individuals, researchers and policy makers to start collaboration in Oman.

Oman is known for its rich cultural heritage and the hospitality of the Omani. Participants of the Global Forum should take the time to visit some of the unique villages in Oman as well as many of the other exceptional places. Learning from each other is essential in our interconnected world.

Topic 1: Health for All – Addressing Preventative Measures and Medical Interventions Adopting New Technologies

Kathie Blizinsky, Policy Director All of US Research Program, National Institutes of Health, USA, **gave an insight in the shifting landscape of 'ethical' data use in research**—representing her personal views and not the views of the U.S. National Institutes of Health.

The ecosystem is changing with respect to biomedical research. We are producing more and deeper data than ever. Research data is usually generated by the research experiment itself, and this is happening at a greater rate and scale than ever before. In addition to that, data is also being produced largely outside the research sector, e.g., in the health sector with EHRs and all the associated data points, as well as in the commercial sector with social media, wearables and other digital services. Research is no longer restricted to using data that is generated specifically for the research.

The choice whether or not to contribute data to research efforts is often a false choice. Participation in research drives potential benefit and the cost of non-participation is frequently being left out of that benefit and progress associated with it. This is of critical importance because it is a driver in the health sector. Because of the reliance on technology and services that generate data, opting out is no longer a viable choice in many cases. The Covid-19 crisis has shown how much of our lives exist online within these services.

This data is valuable to these commercial entities, not just as a way to examine and improve their products, but also as a commodity in itself (i.e., EHRs that are being sold as data points). Therefore, data is both a means to an end and an end in itself. Even the regulatory framework reflects this false choice as deidentified and anonymised data are seen differently than identifiable or potentially identifiable data.

The nature of risks associated with data use, the likelihood of events occurring and consequences of this events are rapidly changing and are in pace with changes in technology and methodology. The factors of risks are also contextual and can be linked to the social and political climate in which these events are occurring. Despite these rapid changes, the National Institutes of Health's approach to protection remains stagnant. Rather than addressing events in this temporal context and the larger societal picture, NIH's efforts around privacy, security and safety remain focused on the individual both in terms of benefits and risks.

Because of the confluence of situational factors, large quantities of sensitive, but not necessarily identifiable data, are being produced and used without viable opt-out solutions. In rapidly changing technological and socio-political environments that do not have the same pace of progress and regulation, we leave ourselves vulnerable to a tremendous source of social harms affecting not only the individuals but also critically groups of people.

We are poorly equipped to address those harms (stigma, bias, discrimination …), but this doesn't mean that we shouldn't try to address them. However, in order to do that, we need to answer several critical questions:

How do we measure and report on stigma, bias, and discrimination? Who gets to decide what does and does not constitute stigmatizing research? Is there any way to determine social harm prior to the research? How do we separate intent and future use? How do we navigate conflicting interests, rights, and responsibilities? How do we educate data users about, and hold them accountable for, their social responsibilities? What are the appropriate vehicles to regulate potential group and social harms? With regards to the latter, the framework we are using right now is very much focused on the individual and is not equipped to translate directly to addressing groups and social harms.

Rob van Kranenburg, Founder Council IoT, Jury Member IOT Solutions World Congress, The Netherlands, **discussed the topic of disposable identities in the age of digital identity management.**

We are seeing the trend towards self-sovereign identity, especially in Europe. However, self-sovereign identity (SSI) is going to be very complex and problematic because citizens have to be educated to handle their own public-private keys.

One particular model of self-sovereign identity are disposable identities. The idea is to create separate identities, i.e., separate smart contracts for every specific service. We are moving into an ontological shift towards the digital twining of the world—and in this moment, all those having agency on the data produced by individuals need a kind of a timeout, because if it goes unchecked and unbalanced into this digital twin, there are risks for the users. This is also very much about IoT and devices, because people are producing a lot of data, but machines and robots are producing a lot more.

We will face dynamic pricing on anything if digital identity management is not fought for. Dynamic pricing means that prices are no longer fixed, they are fluctuating in real time. For instance, if a group of persons would book a flight to Paris at the same moment, they would all pay a different price. The price proposed relies on a number of indicators. And this will go offline: Within 3 to 5 years, there will be no more fixed prices—people just scan a code to get their individual price. This is problematic in terms of societal impacts, as it means that there is no more room for state actors to be involved.

The community around disposable identity is growing quickly. The website disposableidentities.eu, a European initiative, provides a specific view on disposable identities. The TWINDS foundation in Belgium is building a mobile SDK, a kit to build Apps on these disposable identities. The request for information is out by the Internet of Things Consortium, and the crypto-currency IOTA is going to write a reply on the impacts of disposable identities and IoT devices. There are several projects around this topic, notably the Greek SBchain project sponsored by Siemens, which has interesting and important business implications. A lot of companies are holding data that, according to GDPR, they should not have. With this notion of disposable identities, we remove the GDPR liability. This is a heavy business indicator, because GDPR is real and will become even more real with the update of the GDPR touching the area of SSI.

The Covid-19 crisis showed the global unpreparedness towards pandemics. The FII Institute, a global new generation non-profit foundation, will launch an Infectious Disease Index, which aims to identify gaps in preparedness ahead of other pandemics. In such Infectious Disease Index, disposable IDs really fill this gap in preparedness. If we want the citizens to have agency and a notion of democracy, we should think about creative solutions like disposable IDs in terms of identity. It would be problematic to simply enter a cycle in which people are just showing their Covid-19 passes and credentials to be scanned, without having a clue what is scanned and where all the data end up. In addition, this will not lead to acceptance of the digital transition and industry 4.0. by the broader public.

Sylvie Albert wanted to know the impact of disposable identifies on flexible pricing. And what about the impact of disposable identifies on Facebook's (and other social media companies') business model?

Rob van Kranenburg emphasised that disposable identities need to be disruptive. The virtualization of the world means that all objects are connected to others. If this means that only specific actors are able to see the relations between all these data points, this would lead to too powerful actors—powerful not just in terms of having agency, but also having proactive agency, as those actors would be able to predict very easily, with very simple algorithms, what is going to happen. And we are seeing this already!

We are currently facing the combination of three flux: The TCP-IP, which was never intended to become the basis of a new world due to its lack of security, it is just "pass on a packet"; the Web, which corresponds to "pass on a link"; and the IoT, which corresponds to "pass on the data in large ecosystems".

In Europe, Angela Merkel strongly pushed for self-sovereign identity. She wanted self-sovereign identity as a basis for a European e-ID, as she understood that if identity is not being handled well, there won't be European digital sovereignty. There is no sovereignty without having agency on the core issue of identity. All over the planet, governments are privatizing identity management, which is the end of the states—it's the end of their own business model. The question of ownership of the identity management system is really a matter of a particular way of decision making. This concept of disposable identities (or tiny IDs, contextualized IDs, or attribute-based IDs) is all about disposing and disclosing only what is necessary There is no necessity to disclose your full identity or location when buying in a supermarket—which is happening now when identity management is becoming privatized. Several private actors know where you are, what you are doing and what your intentions are, and based on those elements the companies set the price you have to pay.

Rob van Kranenburg shared [via chat]: https://www.disposableidentities.eu and https://www.disposableidentities.eu/disposable-identities-why-digital-identity-matters-blockchain-disintermediation-and-society

Alan Shark added that the key is how to balance what is called "disposable" (or what others call "anonymous"). It is a very complex issue which requires some more debate on how to draw that line between being anonymous or not. Referring to the example of manipulating people and their identities within the framework of elections, there is a need for government and anyone to know, that if I am who I say I am that should be verified. Maybe there is a way to do both.

Sherif Aziz commented that as the developed world, e.g., the EU, finds new ways to address all the privacy and identity issues in a digital world, we would have new forms of digital divide for the developing world. Therefore, the whole digitalization looks like a moving goal post!

Alexandra Fieux-Castagnet, PromEthosIA, France, **addressed the question how technology can transform healthcare in Africa?**

Africa is the continent with the greatest health challenges, facing diseases such as HIV, malaria, or Ebola as well as rising cases of chronical diseases like diabetes. Sub-Saharan Africa has the worst healthcare in the world, representing 1% of the global health expenditure and 3% of the world health workers.

There are three challenges where technology could help to improve healthcare in Africa: 1) insufficient infrastructures that isolate some territories; 3) the shortage of doctors and health professionals; 3) the lack of health data.

In many African countries, the infrastructure doesn't allow an efficient distribution of medical equipment. This could be explained by the isolation of certain territories, the lack of structures (such as pharmacies to distribute medicines to the patients), and the lack of equipment to transport medicines (especially temperature sensitive medicines such as vaccines). Drones are a very good solution to tackle isolation. Drones can deliver medicines anywhere without the need of a pilot. They have a good energy autonomy and can deliver equipment and medicines in areas where roads are impassable. For instance, Zipline uses drones to deliver vaccines, blood and other life-saving medications throughout Ghana.

Due to the rise of chronic diseases in Africa, the consumption of medicines is increasing—but there are few pharmacies to distribute those medicines to the patients. The use of a smart box or smart delivery can be a solution to provide medicines to the patients. Pelebox in South Africa, is a box that can be unlocked by a code sent directly to the patient by text message. Logistimo in Rwanda distributes a pack of medicines for sexually transmitted diseases, thus enabling people to get their medicines regularly without a pharmacy. Another example to tackle the challenge of transport, is Parsyl in Senegal. Parsyl allows the monitoring of the supply chain of vaccines stocks. It tracks, among others, high or low temperatures. It helps to improve the supply chain and reduce the loss of medicines due to transport.

The lack of health professionals can be explained by a lack of training but also the massive exodus from Africa to Western Europe and the North America. Health centres are scarce and poorly served, which complicates to properly diagnose a disease. Telemedicine can help to overcome this problem. The penetration of smartphones and mobile phones is growing in Africa, which facilitates interaction with a doctor. There are several mobile platforms that can provide information and advice via simple text messages, such as Hello Doctor or MomConnect in South Africa. Smartphones enable the sharing of additional information, such as photos or videos, to support the diagnostics. In case of a more complicated disease such as malaria, the idea is to bring the medical device directly to the patient, rather than having the patient going to the medical center. For instance, matibabu in Uganda is a small device to be clipped onto a patient's finger to diagnose malaria.

Data can pull the whole health system upwards by accelerating research, enforcing countries to cooperate and by becoming a way of funding. However, in Africa data is rarely harmonized and processed in a way allowing to make optimal use of it. Zenysis in South-Africa cleans, aggregates and integrates all data to tackle cholera outbreaks. Zenysis uses machine-learning to identify sources of water contamination and where to prioritize cholera vaccinations.

The Covid-19 crisis demonstrated that sharing of information is crucial. It is therefore essential for African countries to collaborate—despite their heterogeneity—to improve the health of their populations. Most of the African citizens see this collaboration as an absolute priority. Health research is expensive and solutions developed by African countries are rarely lucrative because no one can pay for it. Selling data to interested entities, such as big pharma or big tech companies, could be a way to finance research. However, this rises the debate over confidentiality and ownership of data. There has been a recent scandal of Wellcome Sanger Research Institute being accused of commercializing a gen chip without the consent of African people that donated their DNA.

Technology can help improve health in Africa. However, African countries need to set up a dedicated technology regulation and a unified strategy to cooperate. The need for investment in healthcare in Africa is currently estimated to 25-30 billion dollars, of which a significant part should be dedicated to technology. However, it remains essential to continue investing in training doctors, keeping them in Africa and building healthcare centres.

Some questions to think about: How to encourage Big Techs be to invest in health in Africa? What are the risks of data colonialism, and are they the same for developing countries? Isn't the race for energy-intensive technology a vicious circle for Africa, the first continent to suffer from global warming?

Topic 2: Education and Learning – Exploring Novel Ways in Making Use of Digital Solutions

Samia Melhem, Global Lead Digital Capabilities, The World Bank, discussed the challenge of developing **digital capabilities for a Digital Society**.

Recently, the World Bank published a study on how to build a citizen centric digital capability framework to operationalize digital capability strategies. The study looked at a whole range of countries to highlight the importance of sound and educated leadership—which requires being able to create the operating model in government to align organizational structures to today's problem solving, as well as solid a partnership and participation from citizens to ensure that the digital services are adopted so that the transformation is happening.

The ability to pivot to online has been key during the pandemic, and the countries that did this pivot successfully were those where leadership was aligned with the priorities of digital. We need the citizens to be at the centre of this transformation—to improve their lives, but also to make them the key adopters and future innovators, so that the environment for the business as well as the impact and effectiveness of government is improving.

It is essential to have citizen groups be part of the ongoing pilots and to adopt a co-creative process of improving citizen journeys. However, adopting a user driven design process requires advanced digital capability in governments and a lot of trust on the side of the users.

User feedback is very important and this is where a lot of government interventions fail as users do not even see the utility of providing feedback. Feedback and using the feedback for improvement while demonstrating and communicating about the utility of feedback is key, as well as training the citizen groups and pilot testers for the right type of feedback provision.

The idea is to arrive at a "citizen-centric digital capability framework" where everything interacts seamlessly—from the strategy on one side, over an onion model in the middle (at which the citizen is at the heart), to the outcome on the other side. In this model, the government is in charge of four main areas: 1) modelling its organizational structure and role; 2) providing the legal and regulatory framework (to be constantly updated, adapted to digital, and created in an open way so that it allows for technology to change); 3) providing financing and incentives; and 4) creating the sourcing and partnership ecosystem.

The organizational structure and the government's role model can follow different models to embed digital activities: 1) a fully integrated role; 2) a semi-integrated role (things are not reorganized but bridges are built, e.g., centres of excellence, to assure the whole-of-government approach); and 3) the functionally separated approach (things are kept as is but new structures, such as steering committees and processes, are set up to make sure the ecosystem works well together). Apart from that, new digital roles (such as CIO, CDO, CISO…) are needed to support the business leader and facilitate good digital transformation.

Developing a digital mindset is key. Some considerations for leaders of digital transformations: What data should be open or with limited access? Who do we allow to leverage public data? How do we upskill people to be able to design or even just run and maintain AI-based solutions? Who will own the algorithms that form the basis of AI-based solutions? How do we ensure the transparency of our AI solutions—and that we are able to explain the decisions that AI solutions arrive at? How do we prepare the workforce for new man–machine

interfaces? How can we work with a digital colleague or with digital twin user interfaces of the organization—at the same time creating job security and trust through lifelong learning and re-skilling of the workforce? And, how can we attract and keep digital talents?

Pavan Duggal, Advocate Supreme Court of India, Head, Pavan Duggal Associates/ President Cyberlaws.net/ Cyberlaws Asia/ Mobilelaw.net, Member WIPO, India, **addressed cyber security and cyber legal issues facing online education and learning**—an area which is becoming more and more important. Cybercriminals are increasingly targeting schools, universities and colleges. The recent ransomware attack on Harvard University is just a sign of things likely to come.

However, there are also other dangers, such as the psychological ones: Online education and learning translates into more hours spent online and increases the risk of psychological disorders, cyberbullying, cyber trolling, cyber harassment etc. Covid 19 is not just a coronavirus disease pandemic but also an infodemic and cyber pandemic.

Even if work from home is not really new, the extensive implementation of distance working and studying during the pandemic led to fundamental changes. With online learning becoming the new norm, students had to study from home, they were deprived of their social interactions and thereby got a rather distorted vision of what life is going to be. While online learning has tremendous advantages, the disadvantages are also beginning to show up. Because the attention spent when doing online learning is rather small, the chances of being distracted or being potentially targeted by information overload are very high.

With the increasing reliance on platforms, students are facing numerous challenges. There are also a number of cyber ethical issues that are beginning to show up in the context of online education, such as fake news or false propaganda.

As online education and learning systems are an increasingly popular target for cybercriminals, cybersecurity remains a top priority. Due to the lack of international cyberlaws, several countries came up with their own dedicated national laws on cybersecurity during the pandemic, some of them are also dealing with online education.

Videoconferencing has become the lifeline, but videoconferencing also raised immense new problems: Threats like Zoom attacks are constantly increasing and existing legal frameworks are not yet suitable to deal with these new challenges. Cyberlaw has become more and more important because this legal discipline in now going to encompass not just online education but also online learning.

The raise of AI is going to be both a boom and a threat: while educational institutions will use AI for education, cybercriminals will use AI for breaching the cybersecurity and the systems of these institutions.

As technology matures, blockchains will be increasingly used by online education institutions for online storage and online networking, but eventually it will be the IoT that will open up a Pandora's box for online education: With more and more new IoT devices getting connected to online education and without any international norms on cybersecurity, we are actually creating a new “Wild Wild West”.

Franco Claudio Grossi, Kazan State University of Architecture and Engineering, Russia Federation, introduced **Education 4.0 as the next way of teaching**.

Traditional education focusses on instilling knowledge "into" the minds of students. The main purpose of outdated education is to teach content to students. The design of traditional classrooms does not favour the use of modern teaching technologies. The old-fashioned classroom is obsolete with regards to technology and method, equipment and environment.

With the pandemic came distance learning mixing in-person and remote sessions. These hybrid classrooms are a combination of online learners and people in a physical room, using Microsoft Teams and Zoom environments. Some of the students only log in remotely and interact with each other in a virtual classroom, other students are physically present in the classroom. Modern education focuses on growing strong social, creative and conceptual thinking. Today, the main purpose of education is to shape personality and learn cultural literacy.

The pandemic has accelerated the teaching process which evolved from one-to-many broadcasting to one-to-one broadcasting. The modern studying method is a hybrid system that grows and evolves with new technology in a flexible environment. The learning method evolves from solitary learning to teamwork; the teaching method evolves from teacher centred to student centred, the curriculum from separate disciplines to interdisciplinary courses; and the learning community from a single classroom to a connected network.

Education 4.0 follows the concept of Industry 4.0. It is teaching without the teacher—using AI, IoT, big data, Virtual Reality etc. Education 4.0 is based on smart technology and equipment. It empowers new teaching and research and promotes the upgrading of educational information.

Education 4.0 enables international collaborative schools and teaching with VR, and eventually teaching without a teacher: equipped with a high-performance virtual teacher computer; the remote interactive systems support multi-classroom, multi-campus, multi-regional teaching resource sharing and provides teacher-student interaction.

Judith Ryser [via chat] stated that almost 2 years of social isolation and lockdowns have taught the importance of face-to-face interaction.

Alan Shark [via chat] supported the idea that the professors' role needs to change away from lectures: they need to be facilitators, digital curators, coaches, and more. Though, he was not in favour of eliminating the professor.

Bob Deller commented [via chat]: The educational perspective seems increasingly focused on the use of technology. Although there are clear values to be developed through technology, the process of learning requires a broader spectrum for teaching. It would be interesting to break down learning into other fundamental behaviours, such as inter-human interchange or non-rational learning.

Franco C. Grossi [via chat] added that the role of the professor will change since he will be equipped with future media.

Sylvie Albert, Professor Department of Business & Administration University of Winnipeg, Canada, **reflected on the challenges related to networked forms of education**. The educational system is in crisis. A lot of pressure is coming from digitalization and globalization—which is requiring to make some changes quickly:

The digital equity gap persists and continues to widen, with lots of students going online without having enough access to highspeed technologies to contribute and participate in classes. There is an incredible number of new digital learning tools—all kinds of new technologies are thrown at the system. However, many higher education institutions don't have the resources for the support needed to be able to use some of these technologies.

Governments want educational systems to be much more student-centred, much more focussing on experiential learning. We want a system that is highly innovative and reflective, but also a system that is historically heavily controlled, very distributed, and very competitive. How to marry these concepts and make it work?

Internally, students want options in their return to campus: Some have gotten used to online learning and want to join any class remotely; they also want more engaging campus classes and more inclusivity. However, educational institutions haven't really implemented a change management process, in the sense of Lewin's change theory model, i.e., unfreeze the behaviour during the pandemic, make the change, and then refreeze the new normal. How to refreeze the new normal? The whole change management process needs to be thought of, managed, understood and requires a common vision in terms of where we are heading to with all of this change.

90% of the students believe remote learning will be beneficial to their education. But the majority (70%+) of the teachers and professors are feeling that they are not supported. They don't have what it needs in order to be really effective in doing what they need to do. Current systems need to be overhauled to support the changes needed – we have talked about change without executing appropriate change management practices.

An innovative example from the Educause Review: "Reimagining Higher Education: The Post-Covid Classroom" (2020), is the New South Wales University in Australia: At New South Wales U classes are delivered on Microsoft Teams via multiple channels; real time live problem solving is available using a Surface Hub device. Students have no textbook; they are using real-time digital inking, group woks and collaborative problem solving in chat streams. They have Qbots that are scanning the chats for conversations and questions about key concepts or problem solutions and they assign those to the teaching assistants or tutors to respond. Moreover, Microsoft Cognitive Services and QnA Maker is used to train AI to recognize the relationship between answers and concepts over time. Azure Connect is used to create an augmented reality lab. Students are able to conduct experiments with digitized interactive rigs and pull up SharePoint-hosted documents and videos.

There is a whole lot of technology that is going into some projects. However, to really move to the next level, we need to provide much more support to the system and a much better understanding of how we change cultures. We also need to know how we are going to properly resources, and we need an execution plan that works.

Chetan Sharma, Founder & CEO Datamation Group, India, **discussed convergent gender, security and protection during pandemic times in health and education spheres**.

The Datamation Foundation, an Indian NGO, targets women, economically and socially disadvantaged communities and youth. Gender equality, youth empowerment and poverty alleviation, integrated with all-round development of the communities, are the key goals.

The Foundation imparts IT education to the deprived and marginalized. A Covid-19 resilient learning practice has to rely on a hybrid model, i.e., face-to-face instruction and remote learning, especially if the connectivity tends to be poor, and content and curriculum are not sufficiently developed to deliver on adequate learning platforms.

Datamation Foundation supports women empowerment, skilling and employment. Women face a maximum risk and stressed economic conditions in Covid-19 times—impacting health, nutrition and wellness (also that of the children). Women are further vulnerable due to maternal child health challenges. It is important to address early child care challenges, but also to bridge the lack of primary education amongst women.

Work from home may sound exciting for the western world with people living in spacious homes equipped with the adequate infrastructure, but in claustrophobic situations where women are living with 7 or 8 family members in one single room, working from home is difficult. Moreover, the pandemic has brought forth the challenge of constant skilling and reskilling. How to reskill all those people that have been suddenly thrown out of their jobs?

Datamation Foundation, in partnership with the World Bank and a number IT companies, has developed a risk mitigation strategy reaching out to the poor and the disadvantaged women and youth: Community mobilization; teaching basic literacy and numeracy; ICT-enabled skilling and skills development; and jobs placement, micro enterprise enablement and forward-backward market linkages for microcredits, micro-insurance and micro-enterprises. In this context, more than 40 vocational and income-generation, skills enrichment modules have been developed (candle making, tailoring …). Moreover, Datamation Foundation is providing mobile health facilities and is delivering health at the doorstep.

Another initiative is focussing on the maternal child health improvement using SMS and digital tools. The objective is to decrease the high infant mortality rate and morbidity rate, especially amongst the rural communities through mobile-based alerts and information, as well as door-to-door community mobilisation and awareness creation. The initiative has won a number of international awards (e.g., Vodafone Foundation and Government of India awards).

Catherine Mantel emphasised that health is wealth; education is wealth as well—but there are preconditions to be fulfilled. It requires access to affordable, durable and uninterrupted essential utilities, such as electricity—the key to all others. In South Saharan Africa, over 800 million people do not have access to electricity. Without access to electricity, there is no access to sanitation, waste management, or any digital services. Electricity is the basic foundation for making the digitalisation happening.

Alexandra Fieux-Castagnet agreed [via chat]: The lack of infrastructure and resources is a real problem for the health system: for example, it can take a whole day to get to a health centre to be diagnosed because of the transportation time (bad roads, no public transportation) and

the waiting time (few health professionals, few centres). This discourages many patients. Bringing medications and diagnostic tools to the patient, through technology, would help to address these problems.

Nitya Karmakar proposed to address in the upcoming webinar the question of the new technologies that have been developed during the Covid pandemic.

Youssef Berbash proposed [via chat] to also include ethics of digital identity in the webinar in December.

Concluding Remarks

Sylviane Toporkoff, together with Ingrid Andersson, thanked the speakers and the participants for the intense and thought-provoking ideas and discussions. If there are any open questions in the chat, they can be answered directly by email. A synthesis report of the webinar will be made available.

The moderator reminded the upcoming Fifth Global Forum 2021 Webinar in December.

Global Forum Thematic Webinar V on 8th December, 2021

- Ethics & AI
- Digital Transformation in Times of COVID-19

The webinar will take place on 8th December, 2021 between 1:30 pm to 3:00 pm Paris time / 7:30 am to 9:00 am Washington DC time / 9:30 pm to 11:00 pm Tokyo time.

To join the Zoom meeting:
https://us02web.zoom.us/j/88984226948?pwd=bUFSSkx3d1QwdXdjVHlDSm5mQ2xJZz09

Meeting ID: 889 8422 6948
Passcode: 046401