Expert Forum on policy-relevant research on disability and information & communication technologies (ICTs)

9th and 10th March, 2022

Event Report

Introduction

Over the past six years LIRNEasia has been engaged in policy-relevant research on disability and ICTs in Myanmar, Nepal, India, and Sri Lanka, countries with constrained economic and institutional endowments that have made varying degrees of efforts to realize the internationally accepted objectives of the Convention on the Rights of Persons with Disabilities (PWDs). LIRNEasia has a track record in ICT policy and regulation, both in terms of influencing policy and in terms of advancing knowledge; but it was not positioned within disability studies. Its entry into this space was motivated by opportunities it saw in the affordances of the smartphone that began to be widely adopted even by the poor around 2015 for inclusion of PWDs and other marginalized groups.

In line with its mission of "catalyzing policy change through research to improve people's lives in the emerging Asia Pacific by facilitating their use of hard and soft infrastructures through the use of knowledge, information and technology," and the priorities of its funders, LIRNEasia's research sought to bridge the information gaps affecting the opportunities PWDs had to function independently in public and private spaces. For example, the need to replace the non-standard formats used in Myanmar with Unicode was identified from the qualitative research conducted there. In Nepal, the unmet needs of persons with speech and hearing impairments were communicated both to government decision makers and to participants in the Hackathon. Quantitative and qualitative research showed lower use of the Internet and smartphones by PWDs. One reason given was that the PWDs saw few services and applications that could address their needs. This provided a justification for promoting the development of such applications, as was done in Nepal, India and in Sri Lanka.

The objective of this expert forum was to enable productive collaboration on disability and ICTs, building on the learnings gained by multi-method research over the past six years and leveraging the framings and research of those who have disability as their primary academic focus. The event was held via zoom supplemented by live captioning.

The participants were invited for their experience in conducting research and engaging in informed practice in resource constrained environments such as those where LIRNEasia is active. The format of the program privileged interaction, with short presentations serving as teasers for more detailed information available online.

Among the issues that were explored are:

- Technology is not a silver bullet. What contextual factors must be taken into account for tech solutions to have an impact? What success/failure cases can be

shared? What is the articulation between technology and welfare when resources are constrained?

- Are macro interventions enough by themselves? What relations do they have with micro interventions such as customized applications and various user innovations?

- Potential for market provision of assistive technology solutions appears to exist in India. Does this potential also exist in smaller economies with less developed startup and venture capital ecosystems?

- Most ICT applications require general and/or digital literacy, and common standards such as national sign languages and Unicode. What solutions exist? What is likely to be lost through standardization?

- How can intersectional challenges be addressed, both in thinking about disability (e.g., gender, age, urban/rural), and as leading to productive inter-disciplinary exchanges (e.g., disability studies, gerontology, science and technology studies, generational studies, economics)?

Event Summary

Day 1: Session 1
LIRNEasia research

Presentations were made by Isuru Samaratunga and Tharaka Amarasinghe on LIRNEasia's qualitative and quantitative research in Myanmar, Nepal, India, and Sri Lanka.

Qualitative research, including focused ethnographies, in-depth interviews, focused group discussions and key informant interviews identified eight areas that contribute to independent living of PWDs: care for personal needs, including safety and common illnesses, household management, accessing basic services such as banking transport, education, healthcare and emergency services. The nuances associated with the decision of disclosing a disability, peripheral issues that arise from lack of attention to accessibility of public services and the overall impact of an independent living by a PWD on people around them were highlighted.

The presentation of LIRNEasia's quantitative findings was prefaced by a statement on the lack of nationally representative, comparable, and current studies in Nepal and Sri Lanka. The research aimed to understand the use of ICTs by PWDs. A gap analysis was presented to compare the data from general population and PWD population in terms of income,

education, employment, mobile phone ownership, access and use of the internet and participation in elections.

Dr Vandana Chaudhry highlighted the need to center the conversation on digital accessibility within the larger discourse on digitalization of society. In the context of the COVID 19 pandemic accelerating digital transformation, our lives are increasingly moving from the physical to the digital realm in education, employment and even entertainment. Therefore, the need for digital inclusion and platform accessibility is crucial than ever before.

Digital accessibility has evolved significantly but is still a privilege to many due to cost challenges of assistive technologies. As shown by LIRNEasia research there is a strong link between poverty and lack of digital accessibility. Therefore, digital accessibility must be looked at from an intersectional perspective, the multi-layered nature of barriers including the Global South context and gender roles needs to be considered. Low disability competencies of designers and structural barriers including socio-economic, cultural, and political limitations create gaps in digital accessibility. Involvement of PWDs as equal actors and stakeholders in designing and rolling out of these technologies can reduce the gap between manufacturers of technology and users of accessibility solutions.

Samarajiva mentioned the value of funding by international organizations such as IDRC and Ford Foundation. He said the cost of undertaking such research made it difficult to repeat such endeavors.

Day 1: Session 2
Research gaps and future directions

Prof Gerard Goggin said the lack of quantitative data on disability in the Global South is a deterrent to regulators and policy makers. The ecosystem should develop to generate timely data through national statistics organizations and research institutes engaging in regular data collection along different settings and parameters. Research would help bridge barriers in access, use and connectivity of technologies.

Qualitative research provides in depth insights into how the lives of PWDs are impacted by technology. An effective collaboration of disability rights and research was highlighted as the way forward for policy creation and implementation.

The link between research, policy and disability rights needs to be stronger. This link is strong in a few Global North countries such as the USA, UK, and Australia, yet the rest of the world is mostly not connected. For example, showing a strong direct link between literacy rates, access to assistive technologies and use of a smartphone can direct governmental policy making and resource allocation. This can extend to future research exploring links on human rights, political economy and market dynamics which can encourage governments and regulators to be more involved in disability rights.

Knowledge from innovation systems such as incubators and accelerators that work at ground level on assistive technologies may play an important role in identifying emerging technologies. The presence of G3-ICT at the expert forum as an organization that works on this aspect was acknowledged. Such work helps PWD inclusion to be brought to the center of the discussion of solution development especially in digital platforms. This is integral as the global economies are increasingly digitized with livelihoods and employment getting interlinked with the digital world through avenues such as the gig economy.

Dilshan Fernando discussed how disability is viewed in the Global South and how 'what it means' changes when compared to the Global North. The role technology can play in improving the lives of PWDs in poorer countries needs to be given more significance based on LIRNEasia's experience especially when it comes to youth with disabilities as they are tech-savvy. Universal design of ICT was praised for creating many products and solutions that are accessible and affordable for PWDs who would otherwise be excluded from the product/solution use.

Concepts such as disability categorizations, personal identities and use of terminology in research and policy were discussed. The use of "independent living" in LIRNEasia research was given as an example of a concept that has been viewed critically by disability studies. Future research in this sphere should focus on a 'holistic approach' of disability. The evolution of "independent living" from looking only at access to public spaces to a theme that incorporates access to private and even digital spaces was noted as significant.

Kuansong Victor Zhuang brought attention to how international or transnational instruments can make dramatic improvements in the lives of PWDs with iPhones as an example. On a similar line of thought, Isabelle Carboni from GSMA spoke on how their research shows the importance of mobile phones, especially smart phones for PWDs in creating connections with their social circles, participating in the community and having more access to information and learning. The need for considering different levels of access when developing products and services for PWDs based on gender, age and education level without lumping all PWDs under one category as needs of accessibility are of a wide range was also noted. GSMA research in Sri Lanka conducted in partnership with LIRNEasia was

cited to show that there is a significant lack of awareness on accessibility features among PWDs whereas general mobile phone users consider such features (font size increase, text to speech, speech to audio) to be of common knowledge.

Generally, researching and policy implementation on disability in the Global South is challenging as foundational problems add extra layers to the issue that are not visible in the Global North. An interesting interplay between research and innovation when it comes to assistive technologies in India was cited by Professor P. V. Madhusudhan Rao from IIT New Delhi. The Global South presents unique cases of access, affordability, and awareness issues that make it essential for existing assistive technologies to be reexamined to understand how contextual factors are affecting the use and success. Similarly, issues pertaining to digital accessibility are connected to access to basic infrastructure especially in rural areas of poorer countries. For example, studying the digitalization of the national identity card system of India where the disability pension schemes are assessed through algorithmic programs are hindered by individual and political economic biases that can create access barriers for PWDs.

Janith Rukmal pointed out that the perception towards assistive technologies and/or accessibility features are different in the Global South. Regina Pasion from Asia Foundation spoke on the theme of the lack of political power behind PWDs in the context of the Philippines.

Sarah Lewthwaite moved the discussion to implications of aging and being situationally and/or temporarily disabled, and how tech companies are investing funding and resources on new products to cater to this growing market segment. Vandana Chaudhry mentioned how ableism played a role making accessibility measures such as working from home, bar codes and virtual meeting were accepted as those became needs of the able-bodied majority. She praised the use of universal design in improving accessibility to many population segments and pointed to presenting universal design frameworks as a marketable solution that caters to diverse customer groups. Isabelle Carboni supported this point of view by presenting GSMA research that when persons with disabilities do use the mobile internet, they use it at the same rate as nondisabled persons, thus solidifying the business case for accessibility.

Day 2: Session 3
Policy & innovation

Nirmita Narasimhan set the direction of the session by talking about "Evidence for policy changes & innovation". Growth of LIRNEasia research focused on the theme of independent living as research expanded to different countries, with the use of different research methods that enabled a range of policy interventions, technology and capacity

developments was highlighted. Research on disability is still at its infancy in the Global South while policy makers are paying little attention to accessibility needs of PWDs even with the backing of such research findings. Even in countries where policies are strong, implementation is insufficient. If policy and/or tech solutions are to be effectively implemented those need to appear from the communities of the Global South based on contextual differences of each country. Partnerships and collaborations should be used to bring needs of the PWD communities to center stage if policy implementations are to be sustainable.

Sarah Lewthwaite reflected on critical approaches to digital accessibility policy more specifically policy guidelines that make digital accessibility a reality for PWDs. Digital accessibility is an interaction that is dependent on the service, the user, and the context. She also noted that the perception of hierarchies of impairment differ based on the community and the country leading to different prioritizations in advocacy and implementation of accessibility policies and solutions. Therefore, many practical concerns need to be taken into consideration when developing accessibility standards. The need to view accessibility standards as only the 'baseline' with the understanding of reaching a higher 'ceiling' by developing accessible tools and technologies was pointed out. Lewthwaite described disability as an experience that is culturally contingent, socially bound and geographically influenced. Yet, Global North along with the English language dominates discussions and decision making on standards of accessibility. This highlights once again the need to use local expertise in policy and standards development.

Karen Soldatic noted that standards of digital accessibility across different platforms revolve around dominant notions of disability where PWDs from other minority groups get less attention as advocacy comes mostly from English speaking, white, middle class, urban groups.

Samar Verma from Ford Foundation brought attention to the need to go beyond conventional ways of influencing policy, and the avenues introduced by social media to create mainstream conversations about disability and influence policy changes. The role social media can play in continuous capacity building and sensitizing of the public, policy makers and implementers on PWDs and their needs in effective policy implementation was also highlighted. Regina Pasion o Asia Foundation added how political realities can impact policies by giving examples from the Philippines.

Global North vs Global South differences when it comes to intersectionality of vulnerability and strength of legal frameworks was mentioned by multiple speakers of the session.

Day 2: Session 4
Technology centric solutions

Divya Datta from Vihara Innovation Network, India spoke on their collaboration with LIRNEasia to run a pre accelerator on scaling needs-based technologies to enable independent living of PWDs. In line with thoughts shared in other sessions, the negative impact of designing interventions without sufficient thinking on contexts of users with disabilities was noted. This virtual pre accelerator was rooted in user needs analysis from 83 ethnographic immersions with PWDs across India. Sixty entrepreneurial ventures were reviewed at the first application stage, where 18 startups with ICT/smartphone based components in their product solutions were selected to participate in the pre accelerator lab, representing visual (7), hearing (6), locomotor (3), cross-disability with a split focus on more than one segments (2). Selection criteria to assess applications included: solution efficacy, team strength, scalability and impact potential, and user traction.

During the two-day virtual pre accelerator lab, leading experts and investors tested startups' investment readiness. In terms of learnings from the endeavor, it was noted that while assistive technologies exist, they do not exist at a viable price point, and they are not adapted for cultural, social linguistic contexts making them misaligned. Also, innovators have low continuous touch with people / price points checks / market validation and business mentoring support. This in turn makes commercialization and deeper penetration of the market unsuccessful. Janitha Rukmal added to the conversation by providing examples from Sri Lanka.

Balathansan Sayanthan from Yarl IT Hub presented their process, learnings and challenges in engaging in social innovation in the Northern Province, Sri Lanka targeting the hearing-impaired community especially the students of Nuffield School, Jaffna. This was a part of the Ford Foundation funded research project conducted by LIRNEasia, and similar to the pre accelerator lab in India, this social innovation was also based on research findings. Yarl IT Hub ran a design sprint with teachers from the school, researchers from LIRNEasia and their tech development team. A solution in the form of a mobile app, with a gamified environment for students to learn technical terms and glossary terms related to their school subjects was discovered during this process. Adding to the conversation of user involved design, he mentioned the benefits gained from brainstorming and design prototyping with the community of users. In the near future the open-source code of this software would be available for any interested parties to expand and improve further.

In the discussion that followed, Katie Ellis introduced disability as the 'ultimate innovator' pointing out that many common tech features used by the general population such as captions and voice-overs are disability solutions and/or were led by PWDs. The role of community-led disability solutions was highlighted.

COVID 19 pandemic has forced researchers to consider new data collection methods, and with the effective use of technology researchers have the potential to gain in depth insights into daily lives of PWDs through these innovative data collection methods. The pandemic has also mainstreamed discussions and actions on accessibility. The importance of maintaining this momentum was noted.

Masahito Kawamori commented on how the International Communication Union (ITU) is working on improving accessibility across the board while stressing on how effective implementation requires standards to be a part of legal infrastructure. Accessibility standards in telecommunication and broadcasting industries that guide the behavior of telecom operators and broadcasting companies was cited as an example. National governments can play a crucial role in ensuring basic web infrastructure reach accessibility standards by putting legal infrastructure in place and subsidizing accessible platform and content production.

The discussion focused on different operational and revenue models that have been used for successful commercialization of accessibility products and common challenges faced by entrepreneurs. Muhammad Shabbir Awan spoke on the significance of internet and its accessibility for people with disabilities in socio-economic processes and quoted examples from Pakistan. He also talked about Internet Society's mandate in making the internet safe, secure and accessible for everyone and gave details on how projects that promote internet accessibility can obtain funding from the Internet Society Foundation in collaboration with its chapters from around the world

Programme and Speakers

Day 1	Overall moderation of sessions 1 & 2	Rohan Samarajiva
Session 1 (60 mts)	LIRNEasia research	
1200-1210 (UTC)	Context setting	Rohan Samarajiva
1210-1235	Key insights from LIRNEasia research	Isuru Samaratunga & Tharaka Amarasinghe
1235-1250	Open discussion	2-3 invited discussion catalysts
1250-1300	Concluding comments	Gerald Goggin
Session 2 (90 mts)	Research gaps & future directions	
1300-1315	What research is needed	Gerald Goggin
1315-1325	Reflections on LIRNEasia work	Dilshan Fernando
1325-1420	Open discussion	6-7 invited discussion catalysts

1420-1430	Summary comments	Gerald Goggin
Day 2	Overall moderation of sessions 3 & 4	Helani Galpaya
Session 3 (60 mts)	Policy & innovation	
1200-1210	Evidence for policy changes & innovation	Nirmita Narasimhan
1210-1255	Open discussion	5-6 invited discussion catalysts
1255-1300	Summary comments	Helani Galpaya
Session 4 (90 mts)	Technology centric solutions	
1300-1310	Encouraging startups within an innovation eco-system	Designee, Vihara Innovation Network
1310-1320	Social innovation	Balathasan Sayanthan
1320-1415	Open discussion	6-7 invited discussion catalysts
1415-1425	Session summary	Gerald Goggin
1425-1430	Concluding comments	Helani Galpaya

Speaker Profiles

Tharaka Amarasinghe	Tharaka is a Project Manager/Statistician at LIRNEasia with 8+ years of quantitative research experience. He has led nationally representative studies on PWDs in Sri Lanka and Nepal. Tharaka holds a Masters' in Applied Statistics from the University of Colombo and a BSc in Industrial Statistics and Mathematical Finance from the same university. https://lirneasia.net/people/tharaka-amarasinghe/
Dilshan Fernando	Dilshan Fernando's research focuses on political economic analysis of disability and its impact on development. He has field-work experience in Myanmar, India and Sri Lanka conducting research about how the emerging technologies change the lives of marginalized people. He is currently reading for his PhD at the University of Guelph. https://lirneasia.net/people/dilshan-fernando/
Helani Galpaya	Helani is the CEO of LIRNEasia. She researches and engages in public discourse on issues related to net neutrality, policy and regulatory barriers in Internet access, e-Government and broadband quality of service. She has an MSc in Technology & Policy from the Massachusetts Institute of Technology, Cambridge, USA and a BA (Cum Laude) in Computer Science from Mount Holyoke College, Massachusetts, USA. https://lirneasia.net/people/helani-galpaya/

Gerald Goggin	Gerard Goggin is Wee Kim Wee Professor of Communication Studies at Nanyang Technological University, Singapore. He is also Professor of Media and Communications at the University of Sydney. He has produced award-winning research in disability and media policy alongside other contemporary works on digital technology and cultures. https://scholar.google.com/citations?user=im0BX4cAAAAJ&hl=en
Nirmita Narasimhan	Nirmita Narasimhan is a Senior Fellow and Programme Director with the Global Initiative for Inclusive ICT. She has expertise in Policy making, Capacity building for multi-stakeholder groups and researching various aspects of digital inclusion for persons with disabilities. https://lirneasia.net/people/nirmita-narasimhan/
Rohan Samarajiva	Rohan Samarajiva is the founding Chair of LIRNEasia. He served as Chair of the ICT Agency, the apex body for information and communication technology within the government of Sri Lanka, in 2018-19. He was one of its founding directors in 2003-05. He has contributed significantly toward telecommunications reforms which have impacted the development of the Internet in Sri Lanka. He is a member of the UN Global Pulse Advisory Group on the Governance of Data and Artificial Intelligence. https://lirneasia.net/board/rohan-samarajiva/
Isuru Samaratunga	Isuru is a Research Manager at LIRNEasia with expertise in inductive approach of qualitative data analysis and use of research findings for human-centered design. He has worked qualitative studies in Nepal, India and Sri Lanka focusing on assistive technologies for PWD. https://lirneasia.net/people/isuru-samaratunga/
Balathasan Sayanthan	Sayanthan is a tech industry expert with 10+ years of experience. He specializes in building ecosystems that foster innovation, entrepreneurship and technology. He is a founding member of Yarl IT Hub which promotes creating innovation in communities of the Northern Province of Sri Lanka. He is also a Chevening Rolls Royce Science and Leadership Innovation Fellow from the University of Oxford. https://www.linkedin.com/in/bsayanthan/?originalSubdomain=lk
Vihara Innovation Network	Vihara is an innovation and impact network working in Africa, South East Asia, and Eastern Asia. LIRNEasia and Vihara have worked in partnership in conducting research on PWD in India. Vihara also ran a pre accelerator on assistive tech during this partnership. https://www.vihara.asia/
Sarah Lewthwaite	Sarah Lewthwaite is a Senior Research Fellow within Southampton Education School at the University of Southampton. Sarah's research expertise and interests centre on the teaching and learning of accessibility

	in academia and the workplace. She also maintains a keen interest in inclusion, disability and new media research, inclusive and accessible research methods and student experience.
Vandana Chaudhry	Dr. Chaudhry is an assistant professor of social work at City University of New York (CUNY) College of Staten Island. She earned her PhD in social work and disability studies from the University of Illinois at Chicago. Her areas of research pertain to disability in the global south, neoliberal governance, anthropology of development, and culturally competent practices. She has been actively involved in disability rights initiatives in developing countries. Her research has been supported by various international institutions including the World Bank, Ford Foundation, the National Science Foundation, the Society for Social Work and Research and CUNY.
Katie Ellis	Dr Katie Ellis is Professor in Internet Studies and Director of the Centre for Culture and Technology at Curtin University. Her research is located at the intersection of media access and representation. She is the author or editor of 20 books on the topic of disability, the media and popular culture
Samar Verma	Dr. Samar is the Program Officer at Ford Foundation in Technology & Society, Future of Workers and Philanthropy. He was the Global Head of Economic Justice Policy at Oxfam, Great Britain and an Hon. lecturer at Oxford University where he taught Developmental Economics and International Trade. He has a Phd in Economics, an MBA and an advanced fellowship in Trade Policy from Harvard Business School.
Isabelle Carboni	Isabelle is the Insights Director at GSMA, leading on research and insights for digital inclusion in low- and middle-income countries. She has over 20 years of experience in international development in Africa and Asia. Isabelle holds a bachelor's degree in international relations with development studies from the University of Sussex and a master's in degree in development management from the London School of Economics.
P. V. Madhusudhan Rao	P. V. Madhusudhan Rao is professor in departments of mechanical engineering and design at IIT Delhi. He also serves as first head of the department of design. He is a co-founder of Assistech lab in Khosla school of information technology, which works towards development of assistive technologies for empowerment of visually challenged. As a coordinator of IIT Delhi Design Innovation Center (DIC), he was also responsible for initiating and driving multiple programs in design, innovation & entrepreneurship.
Karen Soldatic	Karen Soldatic is a Professor at School of Social Sciences & Institute Fellow at Institute for Culture and Society, Western Sydney University. Her

	research on global welfare regimes builds on her 20 years of experience as an international (Cambodia, Sri Lanka, Indonesia), national and state-based senior policy analyst, researcher and practitioner. She obtained her PhD (Distinction) in 2010 from the University of Western Australia.
Sarah Lewthwaite	Sarah Lewthwaite is a Senior Research Fellow within Southampton Education School at the University of Southampton. Sarah's research expertise and interests centre on the teaching and learning of accessibility in academia and the workplace. She also maintains a keen interest in inclusion, disability and new media research, inclusive and accessible research methods and student experience.
Katie Ellis	Dr Katie Ellis is Professor in Internet Studies and Director of the Centre for Culture and Technology at Curtin University. Her research is located at the intersection of media access and representation. She is the author or editor of 20 books on the topic of disability, the media and popular culture
Samar Varma	Dr. Samar is the Program Officer at Ford Foundation in Technology & Society, Future of Workers and Philanthropy. He was the Global Head of Economic Justice Policy at Oxfam, Great Britain and an Hon. lecturer at Oxford University where he taught Developmental Economics and International Trade. He has a Phd in Economics, an MBA and an advanced fellowship in Trade Policy from Harvard Business School.
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P. V. Madhusudhan Rao	P. V. Madhusudhan Rao is professor in departments of mechanical engineering and design at IIT Delhi. He also serves as first head of the department of design. He is a co-founder of Assistech lab in Khosla school of information technology, which works towards development of assistive technologies for empowerment of visually challenged. As a coordinator of IIT Delhi Design Innovation Center (DIC), he was also responsible for initiating and driving multiple programs in design, innovation & entrepreneurship.
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	senior policy analyst, researcher and practitioner. She obtained her PhD (Distinction) in 2010 from the University of Western Australia.
Regina Pasion	Regina Pasion is a Senior Program Officer of Coalitions for Change leading the efforts on disability and disability inclusive reforms. She is a psychologist by education, but she has been in the development sector with experience and focus on education and social development.
Kuansong Victor Zhuang	Kuansong Victor Zhuang is a fellow at the Wee Kim Wee School of Communication and Information at Nanyang Technological University where he is working on a project exploring the intersections of disability and emerging technologies. He has a PhD in Disability Studies at the University of Illinois at Chicago and Macquarie University. His work centers on the contemporary claims to include the disabled within life in Singapore and examines the biopolitics of inclusion through a reading of various cultural texts.
Masahito Kawamori	Masahito Kawamori is the Rapporteur of Question 28 "Multimedia Framework for e-Health Applications" in Study Group 16 of ITU-T. He appeared as speakers at several conferences on e-health, including IEEE-ICC, WSIS, and Telecom World, all in 2011. He actively participated in the collaboration between ITU-T, ITU-D and WHO, and was an active participant in the Joint ITU-WHO Workshop on e-Health Standards and Interoperability, Geneva, 2012. He was also a lecturer at the School of Allied Health Sciences, Kitasato University, Japan.
Muhammad Shabbir Awan	Dr. Muhammad Shabbir is an analyst, rights activist and a researcher with expertise in international relations, digital accessibility, internet governance, as well as in policy and strategy formulation. Prior to his appointment as Member of ISOC Board of Trustees in July 2021, he was the founding President of the ISOC Accessibility Special Interest Group now converted to ISOC Standing Group on Accessibility, 1 of 3 permanent SIGs of ISOC and Member Board of Directors of the ISOC Pakistan Islamabad Chapter.