

# DIGITAL TRANSFORMATION in EAST AFRICA

INNOVATE. TRANSFORM. THRIVE.

#DTEA2024

APRIL 17 & 18, 2024

AGA KHAN UNIVERSITY, NAIROBI

# DIGITAL TRANSFORMATION IN EAST AFRICA (DTEA)

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## CONFERENCE SUMMARY

## **About the DTEA 2024 Conference**

Technology has played a critical role in the transformation of the Aga Khan University (AKU) during the 40 years since its inception. In Kenya, the University continues to expand academic program offerings and advance the provision of health services. The opportunities for transformation created by technological progress are reflected in numerous positive impacts on quality of life and living standards in the countries where AKU works.

Digital Transformation in East Africa (DTEA) aims to attract eminent international and national experts to AKU's campus in Kenya, to advance intellectual discussions on topics related to Digital Transformation, with a focus on the East African region. AKU firmly believes that, in the coming decade, technology will play a pivotal role in improving the competitiveness and productivity of East African organizations. Moreover, the rapid changes in fields like Artificial Intelligence and Cybersecurity necessitate thought provoking discussions which AKU is committed to advancing.

## **Conference Themes**

The Conference featured five (5) themes that relate to Digital Transformation, namely:

- 1) Digital Governance
- 2) Data Science and Innovation
- 3) Generative AI in Healthcare and Education
- 4) Cybersecurity and Data Privacy
- 5) Climate Change and Sustainability

## **Day 1: Wednesday, April 17<sup>th</sup>, 2024**

### **Session 1: Introduction of Summit Partners, Sponsor and Agenda**

Speaker: Shaukat Ali Khan, Global CIO, Aga Khan University

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### **Session 2: Welcome by AKU Leadership**

Speaker: Sulaiman Shahabuddin, President and Vice-Chancellor, Aga Khan University

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### **Session 3: Can Digitalization Drive Development: A View from the Global South**

Speaker: Amin Mawji, Diplomatic Representative, Aga Khan Development Network

Summary: How can we ensure that digital disruption is going to lead to development in the Global South? The narrative we often hear is that digital transformation will improve productivity, efficiency and growth. But do we understand the effects on developing countries in terms of job creation, value addition and equality? This is an area of development economics where more work is needed to better understand the link between technology development and strategic transformation in the context of global digital value chains.

Outcomes: We need to need to develop policy frameworks to ensure that: (1) Skills are built in the right sectors, aligned to the global market; (2) investment is guided to the right digital infrastructure; (3) technology is embedded in our home industries, including agriculture and tourism; and (4) the competitiveness of local industries is supported. Large global tech companies are already extracting and monetising data for their shareholders. Our collective challenge is to make sure that this does not become a form of digital colonialism.

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### **Session 4: Connectivity is Everything**

Speaker: Vint Cerf, A Father of the Internet and Chief Internet Evangelist, Google

Summary: The more data we have about ourselves and the people around us, the more we can understand the world and improve it. Creating models based on our data will also help us predict more about ourselves using digital tools like AI. We are beginning to see different ways to implement these complicated models/tools.

Outcomes: The excitement in the community right now for AI is both hyperbole and a kernel of truth, that we are now able to understand an extensive amount of information about the world and ourselves.

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## **Session 5: From Privacy Concerns to Digital Dividends: A New Era of Personal Data Governance via Global Chain Bridge**

Speaker: Dastan Dogoev, Former Deputy Prime Minister, Kyrgyz Republic

Summary: It is important to introduce comprehensive measures to protect citizens' personal data through legal norms and control mechanisms.

Outcomes: Governments need to implement clear data processing standards, and transparent rules. By establishing standards and rules, organizations will be compelled to adopt robust data protection mechanisms, reducing the risk of unauthorized access or misuse of personal data. Overall, this approach aims to bolster citizens' confidence in data handling practices and safeguard their fundamental right to privacy in the digital age.

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## **Session 6: How can Digital Transformation Enhance Governance**

Speaker: Toomas Ilves, Former President, Estonia

Summary: Estonia emerged from the Soviet Union as one of Europe's poorest countries with a high degree of government bureaucracy and corruption. In 1992, it had a GDP of \$2800 as compared to neighbouring Finland's \$23,800. There was a realization that digitization could be an *equalizer* that could overcome Estonia's problems and allow it to compete against countries that enjoyed better economies of scale. Essentially, digitization was viewed as necessary for Estonia's economic and social development. Today, Estonia has more efficient systems than countries like the US, UK and Japan. The challenge of digitization is not a technical one, it is a matter of political will.

Outcomes: Political will needs to come together to ensure digitization. Digitization allows an economy to compete at a global scale, without regard to its landmass or population size, ensuring greater productivity and prosperity. Governments that digitize services will be more efficient and future ready. The legal framework and proper regulations are essential for successful digitization. Digitization is not a one-size-fits-all project and needs to be tailored to a country's unique characteristics and circumstances.

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## Session 7: Digital Skills Ecosystem in Georgia

Speaker: Tamar Kitiashvili, Director General, 4L Lifelong Learning Laboratory and International Expert on Education Policies and Skills Ecosystems

Summary: 1) Emerging technologies and the rapid digital transformation of the global economy affects jobs and professions by accelerating the demand for new skills and transforming the way in which those skills are acquired or developed. Essentially, faster, more diverse, and more flexible skills ecosystems are required. 2) Countries should not expect economic disruptions through investments in technical digital skills development alone; real transformation and value creation in the digital marketplace occurs when professionals are equipped with the key competencies required for the future. 3) Boundaries between formal and informal education are diminishing. A “skills-first” approach is becoming an expectation across economies, necessitating a transformation in the education sector. 4) Partnerships take on new meaning and importance in the skills ecosystems of the future. People will be less able to afford to take years out of work to formally acquire additional skills and qualifications. Therefore, fast and flexible skills development solutions are necessary for both the public and private sectors.

Outcomes: 1) Fast and flexible solutions require the use of technology for skills development, diverse work-based training schemes, and customized blended learning platforms. Skills development must also involve relevant sectors for training and certification, introduce interrupted training approaches, as well as other lifelong learning models. 2) Key competencies are best developed in non-formal settings, but most governments are not ready to invest in this. Technology and gamification models can be used to overcome this challenge. 3) Governments have to identify the most vulnerable groups and introduce mechanisms to familiarize them with relevant technologies, by introducing blended learning approaches. 4) Governments should experiment with the introduction of non-formal education methods, as well as endorsing micro-credential thinking, which makes lifelong learning more flexible. 5) It is important that both the public and private sectors begin collaborating on the development of a skills ecosystem, otherwise any transformation will not be fast or efficient.

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## Session 8: Official Opening Remarks

Speaker: Eliud Owalo, FIHRM, EGH, Cabinet Secretary, Ministry of Information, Communications, and the Digital Economy, Republic of Kenya

Summary: This DTEA conference will play a role in enriching future discussions on digital transformation in the region, which is essential as long as we ensure universal access and inclusivity. Investing in our digital infrastructure will help eradicate poverty and ensure East African competitiveness in the global market. Kenya has a Digital Masterplan 2022-2032 which focuses on enhancing policies and regulations to support digital upskilling, innovation and entrepreneurship. This is being done with the collaboration of the private sector, and discussions have also taken place on rolling out 5G technology across the country. The Kenyan Government has already ensured fibre optic cable infrastructure expansion into remote areas, including wi-fi hotspots at markets and bus terminals. Legislation is being developed to support the creation of digital hubs, which will ensure our youth have the digital skills to compete globally. The government has to serve as a model, which is why we are digitizing all our records and services, and developing a digital identity for all our citizens which will help us advance towards our goal of a ‘paperless’ government. We are also working on expanding manufacturing capacity in Kenya for hardware and devices, while also seeking to become a leader in data storage services powered by renewable energy sources.

Outcomes: 1) Digital transformation will be key for the economic and social development of the region and Africa at large. It will change the way we lead, interact, and deliver public services. 2) It is important to look at the policies, laws, and transformation of the digital sector as a whole. 3) Existing best practices must be benchmarked against others but also contextualized. 4) A robust risk mitigation system is critical. Kenya has entered into partnerships to help ensure the highest standards of data security, which includes ensuring appropriate laws/regulations and hardware infrastructure. 5) To succeed, we must work together, collaborate, create economies of scale, develop enabling policies, identify synergies, and enhance our bargaining power in the global digital marketplace.

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## Session 9: Digital Governance: Are We There Yet?

Moderator: Nancy Booker, Dean, Graduate School of Media and Communications, Aga Khan University

Panel Members: John Walubengo, Member, National ICT Working Group, Republic of Kenya;

Dastan Dogoev, Former Deputy Prime Minister, Kyrgyz Republic;

Tamar Kitiashvili, Director General, 4L Lifelong Learning Laboratory and International Expert on Education Policies and Skills Ecosystems

Khulood Al Sayegh, Head of Clinical Standards and Guidelines, Dubai Health Authority;

Emmanuel Manasseh, Regional Director for Africa, International Telecommunication Union

Summary: The Internet has become a pillar of the modern digital society. Estonia's digital governance system has now been implemented in other countries like the Kyrgyz Republic, where information exchanges have become widespread, and digital documents can now be used instead of papers or cards to travel internally or obtain government services. Dubai has developed Emirate-level strategies using AI. This foundation is essential so that trust can be established with digital services, which can then enable and empower both customers and service providers. There are still gaps and concerns – how will the data be used? Are we collecting the right data? How do we leverage the data that we have to provide better services? Laws around data and digital transformation are still being developed and require greater public sector engagement. In the future, the key trends are clear: AI is here to stay so skills need to adapt to take advantage of the new technology; the skills ecosystem needs to be redefined to accommodate the new digital era; data protection, privacy and trust will become important issues; and equity in access to technology and skills will be essential to minimize a digital divide.

Outcomes: Political will and support is required for digital transformation to be taken seriously. Appropriate regulations and policies are essential. A strong digital infrastructure is also required, which includes: connectivity infrastructure (fibre-optic cables, smartphones); data centres and families of digital platforms (e-commerce, e-payments) including in rural areas; adequate skills development for the entire population; digital identities; and collaboration across government, public and private sectors. Data needs to be recognized as an asset, and any country not exploiting that asset is leaving wealth behind. Citizen rights are essential in the digital world – this requires appropriate agencies and laws to ensure personal data protection.

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## **Session 10: Cybersecurity in the Cloud: Navigating the Nebulous**

Speaker: Kelvin Mugambi, Cybersecurity Technical Solutions Architect, Cisco

Summary: AI is set to have a profound impact on the field of cybersecurity, both as a tool for defending against cyber threats and as a mechanism that introduces new vulnerabilities. The introduction of AI into cybersecurity promises to revolutionize the field, offering enhanced protection and smarter, more adaptable defenses. However, it also requires careful consideration and management to address the new challenges and risks it introduces.

Outcomes: As the cybersecurity landscape becomes increasingly complex, the role of AI will only grow more significant. However, it is crucial to remain aware of the limitations and potential risks associated with AI, including the possibility of AI-driven attacks and the need for robust and secure AI development practices.

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## **Session 11: Is it 'brain surgery'? AKU's Experiences of Addressing Climate in Healthcare**

Speaker: Miriam Kugele, Global Senior Manager, Environment and Sustainability, Aga Khan University

Summary: Health care provision is responsible for 5% of global emissions, hence responsibility on adaptation and mitigation is warranted. Even in LMICs, decarbonization in line with science is possible and most often makes business sense. Pressure for ESG reporting for companies and organizations is increasing and can help manage risks and opportunities. Digital tools for large data management as well as innovative features such as AI in HVAC management can significantly increase efficiencies. Resilience in climate change means not bouncing back but bouncing forward, which is to transform to a new state of better services and improved response.

Outcomes: All organisations and companies must start carbon accounting, for both operations and their full value chains, which will immediately highlight hotspots and areas of focus. ESG reporting presents an opportunity to work horizontally across mandates of an organization and bring knowledge and action on the sustainability agenda. Innovation and integration with the digital and AI space presents many opportunities, where collaboration is much needed.

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## **Session 12: Data Revolutionizing East Africa: Transforming Lives, Empowering Communities**

Moderator: Farhana Alarakhiya, Chief Data Innovation Officer, Aga Khan University

Panel Members: Jack Ngare, Technical Director, Office of the CTO, Google;  
Irene Mwendwa, Executive Director, Pollicy;  
Edwin Wanjogu, Senior Product Manager;  
Catherine Muraga, Managing Director, African Development Center,  
Microsoft;  
David Lemaiyan, Head of Artificial Intelligence, Qhala

Summary: The panel delved into the transformative potential of data for fostering social good, driving economic growth, and advancing sustainable development in Kenya and across East Africa. Panelists shared insightful use cases from their organizations, highlighting innovative approaches to leveraging data for digital transformation across diverse sectors. The discussion underscored the pressing need to take action while preserving local culture and values, emphasizing the importance of balancing technological advancement with cultural integrity.

Outcomes: 1) Collaborative partnerships between tech companies, nonprofits, and consulting firms are both required and important to effectively leverage data for social impact in East Africa. 2) Investment and prioritisation to accelerate the use of data analytics, AI, and machine learning to address social challenges and drive sustainable development in the region. 3) It is imperative to ensure all efforts are taken to empower local communities with data literacy and access to technology to enable them to participate in and benefit from the data-driven economy in East Africa.

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## **Session 13: Looking Beyond the Hype to Drive Innovations in AI and Healthcare**

Speaker: Charlotte Jackson, CEO, Meditech

Summary: AI has taken the Healthcare Industry by storm - but what is real and what is Hype? MEDITECH Believes in the notion of AI technology as an augmentative tool – not a replacement for human judgment, decision-making, or patient and health system interaction. We are looking forward to the potential of AI to reduce cognitive burden and to put the focus back on direct care. Our approach to incorporating AI into EHR solutions is thoughtful, deliberate, and driven by an understanding that it should safely enhance the experience for patients, care teams, and health systems.

Outcomes: Africa is the future and it may be significantly poorer than other continents but its needs in Healthcare are on par with the rest of the world. To digitally transform will take a community of like-minded companies that see this potential and work together to make it a reality. MEDITECH South Africa and MEDITECH are passionate about Healthcare on this continent and are willing to be at the table. Are you?

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## **Session 14: Opportunities and Challenges of a Comprehensive EHR in LMICs**

Moderator: Sayed Karar, Lead EHR Physician, Aga Khan University Hospital, Nairobi

Panel Members: Sushant Pillai, Managing Director, Meditech South Africa;  
Harrison Muiru, CEO, Smart Applications International;  
Nawab Shafi ul Mulk, President, Mulk Med Healthcare;  
George Patsis, CEO, Obrela

Summary: 1) People: The physician-to-population ratio is higher in HMICs than in LMICs, which makes implementation more difficult. Lack of capital, and especially human capital, can result in burn out during EHR implementations. 2) Processes: There is often in LMICs a lack of capacity to structure the data, as a standard process, following government frameworks/regulations and best practice guidelines. 3) Technology: While the internet penetration rate is increasing, there are many areas where it is not available at the required bandwidths. 4) Cloud Computing: While essential for EHR, the costs are very high at this time. 5) AI: There is no choice but to align one's organization with the use of AI, as it will impact organizational efficiency and competitiveness.

Outcomes: 1) EHR Implementations are not one-size-fits-all and each one has unique challenges, whether the institution is public or private. 2) Contextualization of information and data is crucial for EHR implementation. 3) Telehealth and other technological advances, such as Smart Ambulances, need to be supported to advance healthcare. 4) Cybersecurity threat probabilities differ among contexts, but the risks are the same, so preparation and government support is essential. 5) AI will not replace human beings, as morals, ethics, consciousness, judgement are essential for healthcare, but people need to learn to use the tool effectively. 6) Countries and organizations need to prepare for accelerated digital convergence over the next ten years.

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## **Session 15: Harnessing the Power of Data Analytics in Digital Transformation**

Speaker: Emmanuel Manasseh, Regional Director for Africa, International Telecommunication Union

Summary: In today's data-rich environment, leveraging analytics is not an option but a necessity. Data is the new oil; it's valuable, but if unrefined it cannot really be used. Set a mechanism to collect data once and use as many times as possible. Data analytics is a game changer; it is a tool for gaining insights leading to informed decision-making and a catalyst for digital transformation. Effective data governance is of the utmost importance to ensure that data is gathered, organized, and used appropriately, without redundancies. The ability to collect, process, analyse, interpret, and act on data determine the success of the digital transformation.

Outcomes: Political will and support at the highest level is indispensable for governments to prioritise digital transformation on a national agenda, mobilize resources, and establish a clear vision for digital transformation. Digital transformation needs to put people at the center. Digital Skills development is also key – Africa should participate in creating solutions and addressing pressing societal issues, rather than simply being users of technologies and applications. Additionally, content needs to be in a language that is understood by the local population, and deal with matters of local interest. This is crucial for sustainable digital transformation.

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## **Session 16: Bridging the Data & Digital Divide - AKDN**

Speaker: Tracy Blake, Head of Information Technology, Diwan of the Ismaili Imam

Summary: 1) AKDN acknowledges the transformative power of technology, defining the 'digital divide' as a significant challenge beyond connectivity, affecting access and empowerment. 2) AKDN advocates for the collaborative use of data and digital tools to address global challenges, highlighting AKDN's initiatives in regions facing technological disparities. 3) The divide within AKDN mirrors global issues, where addressing technological fluency and access internally echoes the need for external digital inclusion efforts. 4) AKDN aims to turn potential into progress by not only catching up with current technology but also by leapfrogging into innovative practices, especially in healthcare digitisation and economic empowerment through digital financial services.

Outcomes: 1) Create actionable strategies for enhancing digital literacy and infrastructure within AKDN and the communities it serves, tailored to the specific needs of each region. 2) Close the internal digital divide in AKDN by ensuring all staff have equitable access to technology and training, fostering a unified approach to digital tools and literacy. 3) Expand digital empowerment initiatives by drawing inspiration from global innovation models, enhancing the ability of communities to utilize technology for socio-economic development. 4) Strengthen partnerships and collaborative efforts across governments, service providers, and communities to build resilient, digitally inclusive societies.

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## **Session 17: Thank You Note**

Speaker: Eunice Ndirangu-Mugo, Professor and Dean, School of Nursing & Midwifery, Aga Khan University

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## **Day 2: Thursday, April 18<sup>th</sup>, 2024**

### **Session 18: Back to the Future V: Generative AI and Ethics in Healthcare**

Speaker: Khulood Al Sayegh, Head of Clinical Standards and Guidelines, Dubai Health Authority

Summary: 1) Generative AI holds a significant promise to support healthcare systems from dispensing health information across regions and enhancing patients' care. 2) Barriers to the adoption of generative AI solutions are mistrust, biases and scalability in countries with low resources. 3) AI can be encouraged through governance and instilling ethical considerations which looks into accountability, privacy, transparency and algorithm biases.

Outcomes: 1) The Adoption of Generative AI can be further achieved by adopting ethical principles, ensuring human oversight and transparency across the whole model. 2) The importance of partnership and collaboration from stakeholders across the healthcare system. 3) Perspectives of advocacy and patient groups in forecasting the future of healthcare to ensure our readiness and mitigate possible biases.

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## **Session 19: Opportunities for AI in Higher Education**

Speaker: Klara Jelinkova, VP & CIO, Harvard University

Summary: 1) AI is not new and has been progressing for decades; 2) Recent technological changes have led to increasing job complexity and replacement of routine work, rather than higher unemployment. However, the faster a technology moves, the harder it is to predict its impacts and adapt; 3) The rapid pace of development introduces the opportunity to leapfrog and empower new uses in emerging economies. East Africa has been able to leverage leapfrog strategies previously in areas such as mobile banking; 4) AI is not perfect and the lack of training data from certain or underrepresented groups of people can lead to bias or inaccurate output; in a healthcare context it can impact lives; 5) New developments such as lower resource language models and Machine Learning (ML) provide new opportunities for model development; 6) Governments, universities and NGOs can partner to address gaps in training data and integration of less spoken languages with appropriate societal/cultural context.

Outcomes: 1) Mechanisms need to be developed to allow LMICs to access technology at lower costs to ensure fairer access and narrow the digital divide; 2) Government investment in STEM skills starting in primary school will ensure adequate access to talent for a growing number of roles that will require an understanding of how to use AI as well as its development for use in LMICs.; 3) University curriculums should incorporate the “use of AI” into teaching assignments to ensure graduates entering the workforce can leverage this new tool; 4) Partnerships should be developed to address gaps in training data and integration of less spoken languages with appropriate societal context; 5) A focus on healthcare outcomes and data will ensure models developed in high resource areas are effective in LMICs.

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## **Session 20: Charting the Course: GenAI/XAI in Healthcare – Navigating the Future of Medicine**

Speaker: Arshad Fahad, Healthcare CTO & Practice Lead – Dell Technologies, Europe, Middle East & Africa (EMEA)

Summary: In this event, we explored the transformative potential of Generative AI in healthcare, focusing on its ability to improve patient outcomes in low-resource countries. We discussed how AI can be used to enhance diagnostic accuracy, streamline treatment plans, and enable personalized patient care. Attendees engaged in interactive discussions on the ethical considerations and implementation challenges associated with integrating AI in healthcare systems that often face significant resource constraints.

Outcomes: 1) Develop training programs for healthcare professionals to effectively use Generative AI tools, ensuring they have the skills to harness AI's potential while understanding its limitations. 2) Invest in the necessary infrastructure, such as computational resources and reliable internet connectivity, to support the implementation of AI-based healthcare solutions. 3) Establish clear ethical guidelines to govern the use of Generative AI in healthcare, emphasizing patient privacy, data security, and informed consent. 4) Foster collaborations between healthcare providers, AI developers, and government agencies to ensure a holistic approach to implementing AI in low-resource settings. 5) Implement systems for monitoring and evaluating the impact of Generative AI on patient outcomes, enabling continuous improvement and adaptation to changing healthcare needs.

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## **Session 21: Generative AI – A Force for Positive Disruption**

Speaker: Ravi Pendse, VP & CIO, University of Michigan

Summary: 1) AI will positively disrupt the world and the way we do things; 2) AI is not new, it began in the 1950s and popular awareness of AI has now surged with the release of platforms such as Chat GPT; 3) AI will not likely take away jobs – those who understand how to use AI will be able to increase productivity and performance; 4) However, many countries and companies do not have the resources to build their own language models, meaning that cooperation and partnerships will be essential.

Outcomes: 1) Universities have to find ways to harness AI while ensuring students continue to build critical thinking skills and creativity; 2) Educational institutions need to reflect on and adopt best practices – the University of Michigan has published a publicly available 75-page report that guides on the ethical leveraging of AI and its implementation in pedagogy; 3) Institutions need to develop solutions relevant to their contexts and students; the University of Michigan has made a UM-GPT freely available to all students on its campus; 4) AI can revolutionize student support, and the University has made AI tutors available to its students on a 24/7 basis.

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## **Session 22: Bridging the Gap: Large Language Models as Equalizers in Healthcare and Education for Low-Resource Countries**

Moderator: Shaukat Ali Khan, Global CIO, Aga Khan University

Panel Members: Arshad Fahad, Healthcare CTO & Practice Lead – Dell Technologies, Europe, Middle East & Africa (EMEA);  
Klara Jelinkova, VP & CIO, Harvard University;  
Ravi Pendse, VP & CIO, University of Michigan;  
Ignacio Vallines, Head of Scientific Partnerships for Europe, Middle East and Africa, Siemens Healthineers

Summary: Large language models (LLMs) already exist and need to be correctly applied to enhance efficiency. In most LMICs, there are an inadequate number of health professionals, so LLMs built using publicly available health data and medical research can play a crucial role in addressing the imbalance. Additionally, for education, AI based on LLMs can play a significant role in helping students access information on scholarships and education financing. However, we must be cautious as LLMs face issues of data scarcity, bias, lack of contextualization, as well as language diversity and accessibility challenges. Finally, while data-informed decision making is becoming a norm, data privacy and security remain essential, and the increasing risk of misused data must be controlled.

Outcomes: 1) Partnerships with Governments will be extremely important for technology companies and industries; 2) Patients need to be equally empowered across the country to access services; 3) LMICs might be better off using smaller customized and contextualized models rather than existing LLMs; 4) Using models such as Glass AI or KARYA, East Africa can create its own data sets; 5) AI will need to be personalized and technology companies need to democratize access to enable this.

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## **Session 23: Why Continued Rise of Cyberattacks?**

Speaker: Stuart Madnick, Founding Director of Cybersecurity, MIT

Summary: Cyberattacks are not new – healthcare organizations are experiencing an increase in these attacks. Overall, there has been a 20% increase in cyberattacks between 2022 to 2023. These increases are a result of new ransomware, cloud misconfiguration, and vendor exploitation. Constant new features and quick turnover of new technology leaves people feeling like they are always catching up and unable to develop cybersecurity measures on a timely basis.

Outcomes: 1) Be sure to validate all your vendors and limit their permissions. 2) Provide effective education on topics of cyberattacks and ransomware. 3) Watch for suspicious ‘exfiltrations’ and where your data is going. 4) Encrypt your data so it is safe even if stolen.

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## **Session 24: Cyber Risk Management: New Rules of Engagement for a Complex World**

Speaker: George Patsis, CEO, Obrela

Summary: We are now witnessing the creation and expansion of cyberspace. A new domain that holds most of the value of most of humankind. Your digital identity has become extremely important. Yet, cyberthreats continue to grow and investment in risk mitigation is unable to keep up. This is because it is a complex situation, and there is no singular system for solving it. The only certainty in cybersecurity is that every cybersecurity model will fail at least once, regardless of the defence and technology sophistication involved.

Outcomes: 1) To battle cybersecurity threats, a new model must be developed which includes visibility, readiness and resilience. 2) Cybersecurity needs investment in systems of people, technology and processes. 3) The more power to anticipate and understand, the larger the potential for prevention or containment of cyber threats.

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## **Session 25: Cybersecurity in Healthcare**

Speaker: Imran Chaudhrey, Country Manager for Fortinet, East Africa

Summary: Technology is transforming faster than companies and individuals can keep up with, despite a significant acceleration due to Covid-19. There is a plethora of data available, but how is it being used and who has access to it? AI is also changing the field completely. However, this technological advancement, and the resulting reliance on technology, is creating significant technological vulnerabilities. While we should be proactive in ensuring cybersecurity, the reality is that our security decisions are being driven by the external digital devices we purchase and integrate into our technology ecosystems. More importantly, investments in healthcare cybersecurity are far lower than they should be to confront vulnerabilities.

Outcomes: 1) We must question how we can maintain security given our growing use of technology in this era of constant change. 2) The technology landscape has become so complex that we are unable to resolve the majority of existing threats and risks; therefore, every investment in mitigating cybersecurity risks is critical.

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## **Session 26: The New Security Dilemma: Challenges & Opportunities**

Speaker: Nazli Choucri, Professor, Political Science, MIT

Summary: An increase in one country's security may result in another country's insecurity. The traditional security dilemma was one-fold with just geopolitics. The 21st-century dilemma is three-fold and involves geopolitics, environment, and cybersecurity. None of us can opt out of any one of these security dimensions. Cybersecurity threats are growing fast, yet most individuals do not think of cyberattacks until threatened on a personal level.

Outcomes: The key to resolving this 21st-century dilemma is a combination of cybersecurity, digital transformation, and Generative AI. We must accelerate dematerialization and demassification, enhance international cooperation, and create leapfrogging technologies in East Africa rather than replicating existing technologies developed for alternate and less relevant contexts.

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## Session 27: Powering Africa's Digital Transformation: Building Inclusive Futures

Speaker: Alpheus Mangale, CEO, SEACOM

Summary: 1) Experts predict AI could significantly boost Africa's GDP in the coming years. AI is expected to increase Africa's GDP by up to 5.6% by 2030, presenting a significant opportunity for growth and impact. 2) Africa has made significant progress in connecting its population, with an increase in mobile internet connectivity over the years. However, there remains a gap between those covered and those connected. 3) Since 2022, over 500Tbps of subsea capacity has been added around the African continent, with billions of dollars invested in deploying subsea cables. Several new cables are planned or in progress to fuel AI, Cloud and content delivery to the continent. 4) Africa's youth population is growing, raising the importance of digital literacy and skills development to ensure their participation in the digital future. 5) Despite significant progress made in deploying network infrastructure and improving network coverage, many Africans who are covered are not connected resulting in a sizeable usage gap. This is a critical issue for the continent to overcome to realise its true potential.

Outcomes: 1) Significant investment is still required to ensure near-universal connectivity for Africa (around USD 100 billion according to World Bank estimates). 2) Digital transformation is not just about technology but also requires significant investment in digital skills, localized content, and affordable infrastructure. 3) Governments, Policy Makers, Educational Institutions, Global Technology Companies, Private Sector, Development Finance Institutions, all have to partner together and have a crucial role to play in ensuring Africa's youth population is well positioned to leverage the opportunities that come with digital transformation and rapid technological evolution. 4) Embarking on a digital transformation journey is a significant undertaking for any organization. To ensure success, several critical factors must be considered – Having a clear vision and well-defined strategy is essential for guiding the digital transformation journey. Organizations need to articulate their objectives, identify key priorities, and establish a roadmap for achieving their digital goals. This vision should be communicated effectively across the organization to ensure alignment and commitment from all stakeholders.

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## **Session 28: Digital Transformation**

Speaker: Bernard Muteti, Director, Enterprise Services, Safaricom Plc

Summary: Every industry is facing a digital disruption. Digital Transformation is the ability of businesses and organizations to leverage technology to improve, and is being driven by the availability of data and the need or desire to mine this data for insights. Businesses are making significant decisions on whether to hire, train or outsource skilled talent to take advantage of this new resource.

Outcomes: 1) Work is now something that you do, rather than a place to where you go. Organizations need to ask themselves whether they are future ready, and what business competencies will be required for that future. 2) Digital transformation is an essential leveller of the playing field, irrespective of an organization's size.

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## **Session 29: Digital Transformation – Industry Leaders**

Moderator: Peter Gatiti, Associate Vice-Provost & University Librarian, Aga Khan University

Panel Members: Joseph Karumba, HOD, Digital Transformation, Safaricom Plc;  
Angela Ng'ang'a, Education Industry Director, Microsoft;  
Ali R. Zaidi, CEO, Primero Group;  
Alpheus Mangale, CEO, SEACOM;  
Abdul Haseeb, Managing Director, TallyMarks Consulting

Summary: Educational institutions play a crucial role in digital transformation. Data requires people who are literate and trained in interacting with data. Only 36% of our curriculum is useful for future jobs right now, so we need to increase this. The demand for labor exists, but we need to resolve the mismatch between graduate skills produced and skills demanded. For digital transformation, companies need to think: What problem are we trying to solve and how will it move society forward? How does the technology complement what we have already? Will that technology increase the market share, and make you stand out in the market?

Outcomes: 1) We need partnerships between students/workforce and educators to infuse the right skills and curriculum for future roles. 2) Industry leaders need to connect people to opportunities and help them acquire new skills and knowledge. 3) Digital literacy should be increased for the wider population. 4) Having conversations around cultural transformation is an important part of digital transformation. Have conversations with people/staff about how new technologies will affect them. 5) Change is the only constant. Change management is a key component of any organization's digital transformation. 6) As the East African region embraces transformation, regulations need to be updated to create an enabling environment to take advantage of opportunities.

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## Session 30: High-Profile Session

Speaker: Aurelia Rono, Principal Secretary for the State Department for Parliamentary Affairs within the Office of the Prime Cabinet Secretary

Summary: The African Union Agenda 2063 has named the transformation of information and communication technology as a key pillar in driving economic growth, improving governance, and enhancing the quality of life for all Africans. Additionally, the East African Community adopted Vision 2050 as a long-term strategy to transform the region into a prosperous and competitive upper-middle-income region. The vision has ICT as a pillar to build and sustain a people-centred and inclusive development society within East Africa.

Kenya aims to eradicate poverty by providing access to information, credits, and markets, while enhancing efficiency in the management and production process of small and medium enterprises. This is being achieved through the digitization of services, enhancing digital literacy in the education sector, improving technology such as e-health and telemedicine in the health sector, expanding connectivity infrastructure to support access to the digital superhighway regardless of location, advancing digital financial initiatives and financial inclusion, partnering with global companies to enhance Kenya's cybersecurity, and working with global institutions on climate change to ensure our agricultural sector is able to make better data-informed decisions to enhance yields and ensure food security. This commitment to the future is further demonstrated by Kenya's collaboration with the International Telecommunications Union, a UN agency, to set up a global innovation centre in Nairobi.

Outcomes: This conference has brought us together to appreciate the significant role digital transformation plays in improving our day-to-day lives. Lessons learned from this conference will also go a long way in advancing economies for the benefit of people today as well as for future generations. Without the proper development and deployment of digital tools, the world will fall short of achieving the 2030 agenda for sustainable development. Our youth must lead and drive this digital transformation by leveraging ICT to increase employment and drive innovation. Additionally, we invite all stakeholders, academic networks, the private sector, fellow governments, and the global community, to work together with us to enhance this journey of digital transformation as we all forge change and hope for generations to come. It is our hope that the outcomes of this conference will be implemented to enhance digital transformation globally.

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## **Conclusion: Conference Summary and Outcomes**

Speaker: Shaukat Ali Khan, Global CIO, Aga Khan University

Summary: This conference sought to bring together global and regional experts to share their knowledge in five critical areas: 1) Digital Governance; 2) Generative AI in Healthcare and Education; 3) Cybersecurity and Data Privacy; 4) Data Science and Innovation; and 5) Climate Change and Sustainability. Together, we hosted 46 high-profile speakers representing 13 countries and 26 companies. We also had over 900 registered online participants from 24 countries. All of this was possible because of the interest of the public, the support of our sponsors, and the partnership of so many organizations, including the Government, who are interested in ensuring that the region remains competitive and prepared for the world of the future.

Outcomes: The conference had four major recommendations for the Government and East African organizations. 1) Form an AI Advisory Council: The Government should establish an advisory group comprising local and international experts to develop a framework for ethical AI; 2) Ensure Sustainable Development and Environmental Conservation: Discussions on climate resilience will help drive actions that can address East Africa's environmental challenges, with a focus on green technologies and renewable energy; 3) Cultivate Consumer Awareness: East Africans need to understand the risks of free services and their existence as data sources that can be exploited if caught unaware, there needs to be a realization that "if it's free, you are the product"; and 4) Support Innovation and Entrepreneurship: People can prepare for Digital Transformation by establishing sustainable skills development programs and ensuring governance structures that nurture an entrepreneurial ecosystem while respecting people's privacy.

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## **Highlights Video and Conference Photos**

A short video with highlights from the conference can be found at:

<https://youtu.be/tOKwLdmmqHk>

Pictures from the conference:

[https://drive.google.com/drive/folders/19GIKWMkTC146Fb55XtNetshcY\\_zILNcE](https://drive.google.com/drive/folders/19GIKWMkTC146Fb55XtNetshcY_zILNcE)

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