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NATO STRATEGIC DIRECTION SOUTH HUB

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NSD-S Hub Webinar

Digital Technology in Africa: Opportunities and Obstacles

NSD-S Hub, *Via Madonna del Pantano, Lago Patria - Italy 80014*

www.thesouthernhub.org

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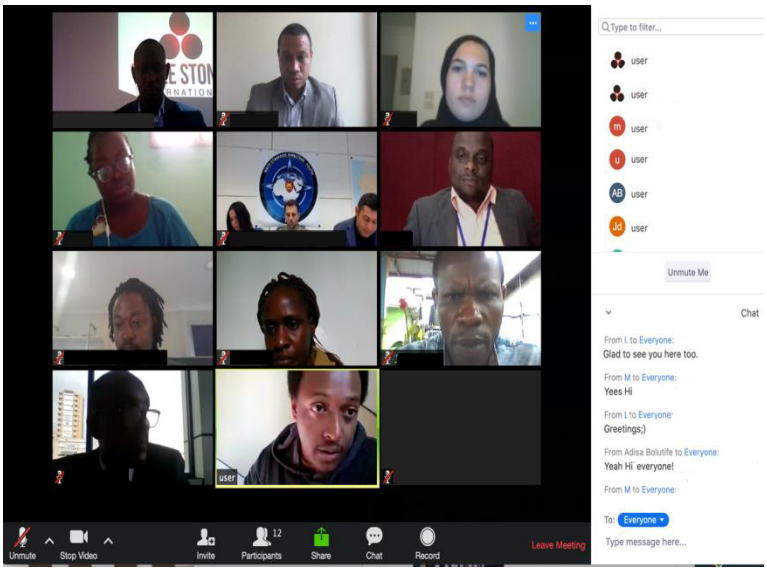
EXECUTIVE SUMMARY

" I very much appreciate NATO for changing the way of communicating with civilians; it is no more command and obey orders, but it is now seeking recommendations from us CSOs experts for promoting stability in Africa!—we thank you" Liz Orembo Panelist from Kenya

A digital technology revolution has swept across the African continent over the last two decades, facilitating new business ventures and connecting the African people in ways never before possible. NATO Strategic Direction South Hub (NSD-S Hub), in collaboration with Three Stones International, arranged an online video conference with various subject matter experts from across Africa to discuss the challenges and opportunities of digital technology on the continent. This live webinar, in conjunction with secondary data review, an online discussion through Kialo, and a statistical survey helped shed light on Africa's emerging digital age and its impact on society, economy, security and overall stability. It also revealed how the general population uses digital platforms to communicate, facilitate business, disseminate information, and even entice political activism.



African governments, business communities and the general population demand and embrace modern digital communication in different ways and for different reasons.

Governments, for example, may use information and communication technology (ICT) to offer e-governance services, prevent cybercrime and terrorism but may also abuse the technology to disseminate propaganda and implement digital surveillance of its citizens.

The general population and business community generally use digital technology for commercial transactions, digital financial services (e banking), marketing and networking.

Civil society organizations (CSOs) are currently active on social media, a useful tool for spreading awareness and knowledge amongst the population.

The main objective of the webinar was to examine the emerging digital development in Africa and its impact on the continent.

INTRODUCTION

Modern digital technologies are reshaping the planet; creating new ways to share information, communicate and build communities. ICT and the "Fourth Industrial Revolution"[1] are transforming societies, businesses, institutions and mentalities around the world.

This modern shift has revealed positive and negative aspects when it comes to society and security in both developed and underdeveloped countries.

To support the NSD-S Hub research of the topic, a live video conference, in conjunction with secondary data review, an online discussion through Kialo[2], and a statistical survey were instrumental in understanding the region's digital development and identifying which areas could benefit from NATO's contribution and assistance.

Nine African countries participated in the live online dialogue. The panelists were subject matter experts in the fields of ICT, media & communication, security, law and human rights.

Further surveys collected data from 60 additional subject matter experts from 18 different African countries providing the NSD-S Hub with well-informed insight to the region.

ICT IN AFRICA, AN OVERVIEW

Africa is witnessing an emerging digital ecosystem, which has put it on the map as the next big growth market and the new contender in tech economy. Digital technology has allowed easy and open communication amongst the people, the flourishing of businesses and networks, and has become an essential tool for political activism and freedom of speech. Many African countries are on the verge of democratic transition and civil societies have taken note; they are quickly learning how to use social media to topple long-standing autocrats and corrupt governments.

Africa is a late player in the global tech industry, but this works to the continent's advantage as it benefits from, what is known as, 'leapfrog technology'; bypassing old infrastructures and sidestepping previously observed failures.

Digital technology has certainly brought about economic development and social change to Africa but has unfortunately created new problems and vulnerabilities as well. This is particularly true when it comes to security and the intentional spread of misinformation. The infrastructure, albeit improved, remains weak and open to cyber-attacks and foreign meddling.

[1] Schwab, K. (2017) "The Fourth Industrial Revolution" Penguin Books Limited

[2] Kialo is an online platform to facilitate conversation.

It is without doubt that Africa's new digital age will have a significant impact on local and regional stability; the international community should take note and support the continent in its quest to use digital technology to its advantage thus entering a new era of potential prosperity.

NATO'S ROLE

One of the NSD-S Hub's objectives is to engage with Africa & the Middle East in order to contribute to achieve long lasting stability and security. In order to do so, it requires a deeper understanding of the regions' dynamics, challenges and cultures. It is a forum that connects NATO allies and partners with local and regional subject matter experts (SME) from North Africa, the Middle East, Sahel and Sub-Saharan Africa, so that all matters pertaining to the south can be better discussed, understood and, whenever possible, remedied.

The NSD-S Hub chose to look into the impact of digital technology on stability in Africa on both political and economic levels. As such, various local subject matter experts were invited to partake in an online video discussion to share information and news from the ground and to present their various perspectives and future expectations, hopes and concerns for the region.

FINDINGS

Africa is at the forefront of emerging nations embracing digital tech and is witnessing an "African digital renaissance"[3]. The emergence of the breakthrough technology on the continent presents great opportunities but brings about new challenges and difficulties as well.

The webinar, that saw the participation of several African subject matter experts, highlighted various aspects, both positive and negative, of Africa's new digital age:

INTERNET ACCESS

Africa will witness the largest increase in the size of its population over the coming 10 years with a projection of 1.68 billion people in 2030. As the population grows, so shall internet connectivity.

Participants stated that African governments lack a solid integration of internet literacy policy and educational platforms. New internet users do not have appropriate online social skills, leaving them exposed to a new era of internet frauds, disinformation and manipulation. Fundamentalists and terrorists seeking to radicalize populations via internet exploit such vulnerabilities.

Some African governments have yet to respect equal access to the internet; in response to civil unrest, governments will completely shut down the country's internet connections and mobile

[3] https://www.theguardian.com/world/series/the-tech-continent-africas-digital-renaissance

data, restrict social media or use strategic digital surveillance to cut off access to specific groups and individuals. This type of government manipulation is a violation of civil liberties and fundamental freedoms. It also has dramatic economic consequences often overlooked by governments eager to silence opposition. Shutting down the internet undercuts the ability of companies to do business. It also limits liquidity in countries where many people rely on mobile money transactions and digital financial services. In 2019, the economic impact of an internet shutdown was of US$5 billion US dollars in losses to the global economy, twice the cost of global worldwide internet shutdowns in 2016.

POLICY AND INFRASTRUCTURE

In the year 2000, Liberia saw approximately 500 internet users. Today, there are roughly four million Facebook users in the country (approximately 80% of the population) with internet connections available to only 21% of the population[4]. The growth of internet access in many African countries is remarkable, and yet Africa still struggles to reach the global average. According to *the UN - State of Broadband* report[5], global internet user penetration currently stands at 51% whereas Africa's remains at 24.4%. Outdated or non-existent policies and legislative frameworks prevent African countries from benefiting from better investment in internet infrastructure. Some countries establish ICT policies just to protect those in power, rather than foster an inclusive digital environment and some policies impede freedom of speech all together by disseminating fake news or imposing censorship.

GOVERNANCE

Nearly all African governments have websites and social media profiles, although the upkeep and effectiveness varies greatly across the continent. Many countries have gone a step further, and have adopted e-governance platforms for basic civil registry and other governance services. This has been met with mixed results; many e-governance platforms still struggle with negative user experience and in the case of Kenya, the e-governance service providers are actually being challenged in court on accusations of corruption.

In the light of a new digital age, African governments have generally failed to meet the true needs of their citizens. They have not yet truly invested in digital technology as a means to connect with their citizens and civil society organizations (CSO). According to the participants, many African governments view CSOs and their use of digital technology with suspicion, and believe that their true aim is to support oppositional political movements. This is why there is little to no ICT technical collaboration between governments and civil society.

[4] According to www.export.gov, a US Government investment resource prepared by US Embassies abroad.
[5] https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.20-2019-PDF-E.pdf

THE SMARTPHONE REVOLUTION

Sub-Saharan Africa will acquire one-billion additional internet connections within the next decade. The World Bank/IMF estimate the cost of closing the digital divide at around US$100 billion, approx. US$9 billion a year. This requires establishing nearly 250,000 new 4G base stations and utilizing at least 250,000 kilometers of fiber cable[6]. This new digital infrastructure will dramatically change how Africa does business and generates revenue.

The *UN, State of Broadband report* suggests that a 10% increase in mobile broadband penetration in Africa would bring an increase of 2.5% of GDP per capita. This would equate to approx. US$56 billion increase in African household spending power. Africa is already experiencing a mobile-phone revolution, as smartphones are available to all at very low prices (thanks to China) and the number of mobile internet connections is set to double to 636 million in 2022. Africa experienced the highest global increase in internet users: 2.1% in 2005 to 24.4% in 2018. Its adoption of 4G connectivity is to overtake 3G connection by 2023.[7]

FOREIGN INVESTMENT

International corporations have taken notice of the market potential in Africa and are actively pursuing investment opportunities on the continent. French telecommunications company Orange has opened its first African digital center in Tunisia, Google has established its first African artificial intelligence center in Ghana, and Europe's leading digital economy think tank, IDATE DigiWorld, inaugurated its first African based office in Morocco in 2018[8]. Digital business is flourishing on the continent. Half of the world's mobile financial services users, approx. 122 million people, are African. Online retail is also a potential key area for growth and international investment; many are carefully keeping track of Jumia's progress after its listing on the NY Stock Exchange. Digital technology has generated many entrepreneurship options and possibilities in Africa, despite regulatory and institutional limitations. Some investors are considering the use of digital currencies as a way around traditional capital investments. It is believed that crypto currency is on the rise as an alternative form of liquidity in countries suffering from hyperinflation but overall, crypto currency is largely unrecognized on the continent.

INCLUSIVENESS & WOMEN'S RIGHTS

Internet inclusiveness is measured by Availability, Affordability, Relevance and Readiness[9]

Relevance includes aspects such the existence and extent of local language and identity. Readiness includes cultural acceptance, gender equality, appropriate skillsets, and adequate

[6] https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf
[7] https://www.gsma.com/r/mobileeconomy/sub-saharan-africa/
[8] https://digiworldyearbookafrica.idate.org/en/
[9] https://theinclusiveinternet.eiu.com/explore/countries/performance

policies. In rural areas of Africa, Relevance and Readiness may prove to be ongoing barriers as local communities struggle to find their voice and cultural identity. Africa's gender gap has expanded to become a digital gender gap since women, in certain regions of Africa, do not have equal access to the internet and are have limited possibilities in the work areas related to technology.

YOUTH

Young ICT entrepreneurs are pioneering with their popular online TV and radio shows. Many young talents are learning how to earn an income as local and even international *influencers*. The young African *influencers* are not only popular for their take on fashion, culture, and fitness, but are also making headway as popular political commentators and personalities.[10]

According to participants, many African countries fail to recognize or encourage the potential. There is a lack of digital education, and digital expertise remains for the few. This potentially exposes the youth to cyber predators who prey on the less educated and less cyber savvy population.

SOCIAL MEDIA

For the youth, Internet is mainly about social media. This is not exclusive to Africa; but African telecom companies do essentially incentivize and reinforce the paradigm by offering WhatsApp, Facebook, Instagram and Twitter packages. Data bundles that offer only social media are significantly cheaper than all-inclusive access to the internet. This helps increase primary internet uptake by making social media cheap to access. However, it also means that there is limited capacity to cross-reference and fact check information, fake news and propaganda. Social media has therefor become a valid tool for political agendas or other forms of propaganda.

WhatsApp has become a widely used messaging platform embraced by urban and rural users alike, making it somewhat more egalitarian than Twitter or Facebook. East Africans were the first to create topical chat groups for the purpose of social welfare and governance. WhatsApp's open format for messaging has made it an ideal platform for information, news sharing and campaigning despite the flipside of it also being a valid tool for disinformation dissemination.

DISINFORMATION AND PROPAGANDA

"*My mother is very good at spreading fake news on social media because she has no ability to verify whether it is fake or authentic*" webinar panelist[11]. Those who create and disseminate

[10] https://www.niemanlab.org/2018/12/influencers-become-the-new-liberated-power-in-africa/
[11] NSD-S Hub Webinar Dec 10, 2019

fake news and propaganda now rely on an easy access network of lay internet users with limited education and virtually no ability to verify the authenticity of information.

When it comes to targeting specific minorities or ethnicities, inciting violence is easy where long-standing prejudice and tensions lie. Governments do not counter this dynamic, and by the time hate speech reaches encrypted messaging channels, it is too late for any meaningful intervention. End-to-end encrypted messaging platforms are extremely hard to monitor and control.

This abuse of digital technology threatens democracy and limits open interactions and exchanges.

CYBER CRIMES

"ICT opportunities are obviously far greater than its challenges in Africa, but we only need to create systems and procedures that limit terrorists and other digital tech-based threats" A dialogue participant.

Terrorists have a comprehensive command of technology, and use it for incitement, radicalization, recruitment, training, planning, and financing; all facilitated through ICT.

ISIS, al-Shabaab, Boko Haram and other terrorist groups have utilized social media to spread their message to Africa, and the digital platforms has rendered them more effective, organized and persuasive. Non-state actors use digital technology for illicit activities, such as human trafficking, human smuggling and other forms of transnational organized crime. ICT has therefor become a high priority on the UN counter-terrorism agenda.

In response, governments hire technical specialists to create improved national cyber-response modals. However, applicants warn that the way African governments respond to the rise of tech-based crimes is often self-serving. Governments tend to use Cyberattacks as an excuse to implement measures and technologies that are then used to monitor the people. The applicants agreed that the government should not use the measure to grab and abuse power, and implement mass surveillance and censorship, which are violations of the citizen's right to privacy and freedom of expression.

MALIGNED FOREIGN INFLUENCE

In 2005, Russia's Minister of Information declared that "IT is Russia's next natural resource."[12] In 2019, Facebook removed three Russian supported networks of accounts, for engaging in "foreign interference"[13], though what Facebook calls "coordinated inauthentic behavior" on

[12] quote from Leonid Reiman, Minister of Information Technology and Communications of the Russian Federation, at the Russian Economic Forum, London, United Kingdom, April 12, 2005

[13] https://newsroom.fb.com/news/2019/10/inauthentic-behavior-policy-update/

behalf of a foreign actor. The networks were targeting eight countries in Africa, and were backed by Yevgeniy Prigozhin the Russian oligarch U.S. authorities accused of bankrolling the Internet Research Agency — this was referred to as the "notorious Russian troll factory." by the New York Times.[14]

China, for many years has been courting African leaders and disseminating Chinese propaganda through social and mainstream digital media to undermine the United States and aligned Western countries' influence and investments in Africa[15].

On the other hand, with African countries increasingly adopting advanced digital technologies, governments are reinforcing their electronic signals intelligence (SIGINT) to monitor not only their citizens but those from other countries as well. China, Iran, Russia, Israel are the main providers of such advanced technology.

CONCLUSION

Africa's digital revolution will prove to be of historical importance. It could transform the continent on many levels and propel it into a new era of business ventures, education and overall prosperity.

Africa has already demonstrated its capacity to harness digital technologies; the people now have access to smartphones, affordable data packages, business applications, online retail, e-governance and e-banking services, social media etc. Moreover, internet access has allowed billions of Africans to connect with each other, and to the world.

But the technology, although groundbreaking, has generated new challenges of a mainly political nature, with people in power abusing digital tech for their own agenda and criminal groups using its platforms to prey on the vulnerable factions of the population.

Cooperating and exchanging information with African institutions and SMEs on the ground, allows for a better understanding of the underlying causes and effects of these challenges, and consequently, for a more comprehensive approach to tackle them.

The African digital development can have a transformative effect across the world, and its economy, by reducing barriers to entry and expanding market reach for businesses, creating jobs, and boosting both domestic and foreign trade in goods and services[16].

Africa's new era of digital technology holds bright promise not only for the region, but for the rest of the world as well.

[14] https://www.nytimes.com/2018/02/18/world/europe/russia-troll-factory.html
[15] Joshua Meservey, "China in Africa: The New Colonialism?" testimony before the Subcommittee on Africa, Global Health, Global Human Rights, and International Organizations, Committee on Foreign Affairs, U.S. House of Representatives, March 7, 2018
[16] https://www.consilium.europa.eu/media/40535/annex-2-digital-transformation-in-africa.pdf

COUNTRIES REPRESENTED IN ALL PLATFORMS OF ENGAGEMENT

1. Democratic Republic of Congo
2. Burkina Faso
3. Rwanda
4. Ghana
5. Canada
6. Nigeria
7. Uganda
8. Burundi
9. Egypt
10. Zimbabwe
11. Kenya
12. Benin Republic
13. Ethiopia
14. Mauritania
15. Mozambique
16. Togo

NUMBERS REACHED

- Approx. 35 participants on Kialo is an online platform that facilitates discussions
- 58 participants responded to the survey
- 9 participants participated in the live dialogue

TYPES OF TECH UTILIZED ACROSS AFRICA

- Facebook
- WhatsApp
- YouTube
- Instagram
- Twitter
- Google
- LinkedIn
- Telegram messenger
- Mobile Money