



Qhala

2023 Eastern Africa Youth Digital Readiness

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Executive Summary

The 2023 Eastern Africa Youth Digital Readiness Index is an assessment tool designed to evaluate and rank the level of digital preparedness among youth in Eastern Africa: Kenya, Rwanda, Uganda, Ethiopia, Tanzania, Sudan, DRC, Somalia, Burundi, and South Sudan. It aims to provide insights into the readiness of young people (18-35 years) to engage with and leverage digital technologies for education, employment, entrepreneurship, and overall social inclusion.

Key Findings

- Kenya tops the ranking of countries in terms of youth digital readiness, obtaining a score of 26.75.
- Rwanda closely follows Kenya, securing a score of 19.85.
- Uganda and Ethiopia hold positions three and four, respectively, with scores of 19.4 and 18.25.
- Tanzania secured the fifth position with a score of 17.75.
- Sudan, DRC, and Somalia occupy the sixth, seventh, and eighth positions, with scores of 16.5, 15.95, and 10.05, respectively.
- Burundi and South Sudan hold the bottom two positions, with scores of 9.25 and 7.6, respectively.

Pillar-wise Performance

- **Pillar 1: Digital Skills:** Kenya, Sudan, DRC and Rwanda excel in this pillar, demonstrating strong performance in youth enrollment and graduation rates, IT education opportunities, e-commerce adoption, and basic coding skills among youth.
- **Pillar 2: Government Support and Infrastructure:** Kenya, Rwanda and Uganda showcase high rankings in the UN E-Government Development Index, indicating effective government support for digital initiatives. Additionally, these countries exhibit relatively affordable devices, internet accessibility, and smartphone penetration among youth.
- **Pillar 3: Online Safety:** Kenya, Rwanda, Uganda and Ethiopia excel in this pillar, possessing robust cybersecurity measures and comprehensive data protection legislation.

Implications and Recommendations:

- **Policy Emphasis:** Countries can draw insights from top performers in each pillar to inform policy decisions and investments in digital education, government support, and cybersecurity.
- **Capacity Building:** Emphasize capacity-building initiatives to enhance digital skills among youth, focusing on areas such as coding and IT education.
- **Collaborative Measures:** Encourage collaboration between governments, private sectors, and educational institutions to create an ecosystem conducive to digital innovation and infrastructure development.
- **Legislative Action:** Advocate for the implementation and strengthening of data protection legislation to ensure a secure online environment.

The Eastern Africa Youth Digital Readiness Index 2023 serves as a valuable tool for policymakers, businesses, civil society and educational institutions, providing nuanced insights into the digital landscape of Eastern African countries and offering a roadmap for strategic interventions to foster digital readiness and innovation.

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Introduction

Background and Context of the Study

Eastern Africa is at a crossroad. In the next 20 years, Africa will be home to 1 in every 3 working-age adults on the planet¹ – working-age adults who have the potential to drive stable income and build wealth for families and communities. Yet the population today is unequipped to capture this tremendous opportunity for economic uplift. One-third of Eastern Africa’s young people are unemployed and dejected, another third are vulnerable, and only one in six is in wage employment.² Young people’s employment, a key tenet of economic growth, is floundering.

In the rapidly evolving landscape of the global economy, digital readiness emerges as a pivotal factor determining a young people’s ability to navigate the complexities of the digital age³. Digital readiness refers to a country’s preparedness to undertake digital transformation initiatives successfully by evaluating the country’s current level of digital skills, the availability of government support and infrastructure, online safety, and the willingness to embrace new technologies and processes⁴. Characterized by the integration of digital technologies, innovation, and a skilled workforce, digital readiness is a key driver for economic growth and sustainability. This study focuses on the Eastern African region, comprising ten nations, and endeavors to assess young people’s digital preparedness and capacity for thriving in the contemporary digital era.

The essence of digital readiness extends beyond mere technological adoption; it encompasses a country’s potential to evolve into a digitally-driven, skills-endowed, innovation-centric, and sustainable economy⁵. Recognizing the significance of this paradigm shift, we present the 2023 Eastern Africa Youth Digital Readiness Index, a quantitative measure designed to gauge the digital potential and performance of Eastern African countries. By leveraging a combination of meticulously curated existing data from reputable sources and expert insights, this index aims to facilitate a nuanced comparison and ranking of ten nations within the region.

¹ <https://www.worldbank.org/en/region/afr/overview>

² <https://mastercardfdn.org/our-work/where-we-work-in-africa/kenya/>

³ “International Youth Day 2023: How are younger generations shaping the new digital era?” 11th August 2023

<https://networkreadinessindex.org/international-youth-day-2023/>

⁴ https://eu4digitalsme.ba/wp-content/uploads/2023/07/DT-assessment-report_FINAL.pdf

⁵ Agility Emerging Markets Logistics, 2023 Index;

<https://www.agility.com/wp-content/uploads/2023/02/Agility-Emerging-Markets-Logistics-Index-2023-EN.pdf>

The countries under examination include Kenya, Somalia, Uganda, Tanzania, Rwanda, Burundi, Ethiopia, South Sudan, Sudan, and the Democratic Republic of Congo (DRC). Through the lens of carefully selected indicators, this study delves into three critical pillars: Digital Skills, Government Support and Infrastructure, and Online Safety, providing a comprehensive evaluation of each nation's digital landscape.

Purpose and Objectives of the Report

The primary purpose of this report is to present a thorough analysis of the digital readiness of Eastern African countries, shedding light on their strengths, challenges, and opportunities in the digital realm.

The specific objectives are:

1. **Quantitative Assessment:** Provide a quantitative measure of digital readiness using the Youth Digital Readiness Index 2023, encompassing indicators that span digital skills, government support and infrastructure, and online safety.
2. **Comparative Analysis:** Compare and rank the digital readiness of ten Eastern African countries, highlighting variations and identifying areas for improvement and strategic investment.
3. **Strategic Insights:** Offer strategic insights and recommendations for policymakers, industry stakeholders, and the youth population to enhance digital readiness and capitalize on emerging opportunities.
4. **Inform Decision-Making:** Equip decision-makers with data-driven insights to inform policies and initiatives that foster digital inclusion, economic growth, and innovation.

Scope, Limitations and methodology

Scope

The study focuses on ten Eastern African countries: Kenya, Somalia, Uganda, Tanzania, Rwanda, Burundi, Ethiopia, South Sudan, Sudan, and the Democratic Republic of Congo (DRC). It encompasses three key pillars—Digital Skills, Government Support and Infrastructure, and Online Safety—and employs a set of 13 indicators to comprehensively evaluate each nation's digital readiness. The indicators measured in this study are:

Pillar 1: Digital Skills

We measure 5 indicators in this pillar, namely: Percentage of youth that enroll in secondary school; the percentage of youth that graduate from secondary school; Accredited Universities offering IT courses relative to Graduating Secondary school students; E-Commerce Adoption, and; number of youth with basic coding skills.

Pillar 2: Government Support and Infrastructure

We measure 6 indicators in this pillar, namely: Ranking in the UN E-Government Development Index⁶; affordability of devices; Cost of the internet; Smartphone penetration among the youth; Percentage of people with internet access, and; Access to electricity.

Pillar 3: Online Safety

We measure 2 indicators in this pillar, namely: Ranking in the National Cybersecurity Index⁷, and; Presence of a Data Protection Act.

Methodology

To assess the digital readiness of the 10 Eastern African countries, a comprehensive methodology was employed, encompassing 13 key indicators that reflect various aspects of digital infrastructure, access, and utilization. These indicators were carefully selected to capture the multifaceted nature of digital readiness, ensuring a holistic evaluation of each country's preparedness for the digital era.

Data Collection and Standardization

Data for all 13 indicators was gathered from reputable sources, including international organizations, government agencies, and industry reports. To ensure consistency and comparability across indicators, data standardization was performed. For indicators expressed as percentages, the actual value was divided by 100. For indicators represented as whole numbers, the mean and standard deviation were calculated, and each value was standardized using the z-score method.

Weighting of Indicators

To reflect the varying importance of each indicator in determining overall digital readiness, a weighting scheme was devised. To reflect the relative importance of each indicator in determining digital readiness, weights were assigned to each indicator using an expert consensus

⁶ <https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index>

⁷ National Cybersecurity Index: <https://ncsi.ega.ee/ncsi-index/>

approach. A panel of experts with diverse expertise in digital transformation and Eastern Africa participated in a structured weight elicitation process. The weights were assigned based on a thorough evaluation of the relative significance of each indicator to the overall digital landscape. The weights were expressed as percentages, with higher weights indicating greater importance.

Weighting Pillar One

Percentage of youth that enroll in Secondary School: 20%

While enrollment is important, it doesn't guarantee completion. It still contributes to assessing overall access to educational opportunities.

Percentage of youth that graduate from Secondary School: 30%

This reflects the importance of completing foundational education, indicating commitment and readiness for further skill development.

Accredited Universities offering IT Courses: 15%

The presence of accredited universities offering IT courses is valuable but doesn't directly measure the readiness of the youth. It contributes to the availability of advanced education.

E-Commerce Adoption: 10%

E-commerce adoption is important for economic development, but it may have a more indirect impact on individual digital readiness. It still reflects the overall digital ecosystem.

No. of Youth with Basic Coding Skills: 25%

Basic coding skills are crucial for digital readiness, and this percentage acknowledges the significance of practical, hands-on digital skills.

Weighting Pillar Two

Ranking in the UN E-Government Development Index⁸: 10%

This reflects the government's commitment and effectiveness in leveraging digital technologies to provide public services. A higher ranking suggests better digital infrastructure and governance.

Affordability of the smartphone: 15%

⁸ [UN E-Government Development Index:](https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index)

<https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index>

Affordability is a key factor in ensuring access to digital devices, which are essential for engaging with online resources and learning digital skills.

Cost of the Internet: 20%

The cost of internet access is a significant barrier for many individuals. Lower costs increase accessibility and the ability to participate in the digital world.

Smartphone penetration among the youth: 20%

Smartphones are often the primary device for internet access, and high penetration rates among the youth indicate widespread access to digital tools.

Percentage of people with Internet Access: 20%

This provides a broader measure of overall connectivity and digital inclusion in the population.

Access to Electricity: 15%

Access to electricity is a foundational requirement for using digital devices and the internet. It is a critical factor in ensuring continuous and reliable access to digital resources.

Weighting Pillar Three

Ranking in the National Cybersecurity Index⁹: 60%

The cybersecurity index reflects the overall cybersecurity posture of a country, indicating its ability to protect against and respond to cyber threats. A higher ranking suggests a more secure digital environment, which is crucial for digital readiness.

Presence of a Data Protection Act: 40%

The existence of a data protection act is important for ensuring the privacy and security of individuals' data. While cybersecurity measures are broader, data protection legislation specifically addresses the legal framework for handling personal information.

Calculation of Weighted Scores

For each country, the weighted score for each indicator was calculated using the following formula:

$$\text{Weighted Score} = \left(\frac{\text{Actual Weight}}{\text{Total Weighted Value}} \right) \times \text{Weight}$$

⁹ National Cybersecurity Index: <https://ncsi.ega.ee/ncsi-index/>

This formula takes into account the standardized value of the indicator, the assigned weight, and the standardized standard deviation. The standardized standard deviation ensures that the weighted scores are comparable across indicators, even those with different scales.

Ranking of Countries

The total weighted score for each country was calculated by summing the weighted scores for all 13 indicators. The countries were then ranked from highest to lowest based on their total weighted scores. This ranking provides an overall assessment of each country's digital readiness and allows for comparisons between them.

Sensitivity Analysis

To assess the impact of weight variations on the rankings, composite scores were recomputed with different weightings. This sensitivity analysis provided insights into the robustness of the rankings and identified critical indicators that significantly influenced the results.

Visualization and Interpretation

The data and rankings were visualized using graphs, charts, and maps to facilitate clear representation and understanding. The results were analyzed to identify patterns, trends, and areas for potential improvement in each country's digital readiness.

Justification of Methodology

The methodology employed in this study is appropriate for assessing and ranking the digital readiness of East African countries due to its following strengths:

- 1. Comprehensive Indicator Selection:** The selection of a comprehensive set of indicators ensures that the assessment captures the various dimensions of digital readiness, encompassing basic infrastructure, digital skills, government commitment, and online safety. This holistic approach provides a more accurate and nuanced understanding of each country's digital preparedness.
- 2. Expert Consensus Weighting:** The use of expert consensus to assign weights to indicators reflects the collective knowledge and experience of individuals with deep understanding of digital transformation and Eastern Africa. This approach ensures that the weights are grounded in evidence and reflect the relative importance of each indicator in determining digital readiness.
- 3. Standardized Scoring and Composite Score Calculation:** Standardizing indicator data and calculating composite scores using appropriate techniques allows for meaningful comparisons between countries and provides a clear overall assessment of each country's digital readiness.

$$\text{Weighted Score} = \left(\frac{\text{Actual Weight}}{\text{Total Weighted Value}} \right) \times \text{Weight}$$

4. **Sensitivity Analysis:** Conducting sensitivity analysis is crucial for assessing the robustness of the rankings and identifying critical indicators that significantly influence the results. This process helps to validate the findings and provides insights into the potential impact of weight variations on the rankings.

5. **Visualization and Interpretation:** Visualizing the data and rankings using graphs, charts, and maps enhances the clarity and accessibility of the results. Analyzing these visualizations helps to identify patterns, trends, and areas for potential improvement in each country's digital readiness.

Justification of Indicator Selection

The indicators chosen to measure youth digital readiness in Eastern Africa are relevant and appropriate for assessing the overall capabilities and preparedness of young people in the region to engage in the digital world. These indicators encompass three key pillars: digital skills, government support and infrastructure, and online safety.

Pillar 1: Digital Skills

- **Percentage of youth that enroll in secondary school:** This indicator measures youth's access to education, which is a prerequisite for developing digital skills. Secondary education provides youth with the foundation in mathematics, science, and critical thinking that is necessary to learn and use technology effectively.
- **Percentage of youth that graduate from secondary school:** This indicator measures the completion of secondary education, which is associated with higher levels of digital skills. Secondary school graduates are more likely to have the skills and knowledge necessary to use technology for work, education, and personal development.
- **Accredited Universities offering IT courses relative to Graduating Secondary school students¹⁰:** This indicator measures the availability of higher education opportunities in IT, which is a critical area for developing advanced digital skills. The number of accredited universities offering IT courses relative to the population of youth in a country provides an indication of the capacity to train a skilled IT workforce.

¹⁰ We limited our data to only accredited Universities. We however appreciate that there are many institutions of higher learning offering IT courses not captured in this study.

- **E-Commerce Adoption:** This indicator measures the use of e-commerce, which is a key indicator of digital readiness. E-commerce requires a range of digital skills, including online shopping, digital payments, and internet security.
- **Number of youth with basic coding skills:** This indicator measures the prevalence of basic coding skills among youth. Coding is a fundamental skill for creating and using digital technologies, and it is increasingly important for employment and entrepreneurship in the digital economy.

Pillar 2: Government Support and Infrastructure

- **Ranking in the UN E-Government Development Index:** This indicator measures the overall level of e-government development in a country, which is an important factor in creating a supportive environment for digital readiness. E-government initiatives can improve access to government services, promote digital inclusion, and encourage the adoption of digital technologies.
- **Affordability of devices:** This indicator measures the cost of digital devices, which is a barrier to digital access for many youth in Eastern Africa. Affordable devices make it more likely that youth can own and use digital technologies, which is essential for developing digital skills and using digital tools.
- **Cost of the internet:** This indicator measures the cost of internet access, which is another barrier to digital access for youth. Affordable internet access makes it more likely that youth can connect to the internet, which is essential for accessing information, using online services, and participating in the digital economy.
- **Smartphone penetration among the youth:** This indicator measures the prevalence of smartphones among youth, which is a key indicator of digital readiness. Smartphones provide access to a wide range of digital services and applications, and they are an essential tool for communication, information, and entertainment.
- **Percentage of people with internet access:** This indicator measures the overall level of internet access in a country, which is essential for digital readiness. Internet access provides youth with the ability to connect to online resources, participate in online communities, and use digital tools for learning, work, and personal development.
- **Access to electricity:** This indicator measures the availability of electricity, which is a prerequisite for using digital devices and accessing the internet. Access to electricity is

essential for digital readiness, as it allows youth to charge their devices, connect to the internet, and use digital technologies.

Pillar 3: Online Safety

- **Ranking in the National Cybersecurity Index:** This indicator measures the overall level of cybersecurity in a country, which is important for protecting youth online. Cybersecurity measures can help to prevent cyberattacks, protect personal information, and promote responsible online behavior.
- **Presence of a Data Protection Act:** This indicator measures the existence of a legal framework for data protection, which is important for safeguarding youth's privacy online. Data protection laws can help to protect youth's personal data from unauthorized use or disclosure, and they can promote responsible data collection and handling practices.

Limitations

1. Missing Indicators:

The study acknowledges not finding data for all desired indicators, namely; E-Commerce Adoption (Somalia and South Sudan), and; the relative number of coders per million population (Somalia, Burundi, South Sudan, Sudan, and DRC).

Impact on Country Rankings:

- **Underestimation of potential:** Without data on E-commerce adoption, it's difficult to accurately assess the extent of online economic activity in Somalia and South Sudan. This could underestimate their digital readiness, potentially placing them lower in the rankings than they deserve.
- **Incomplete picture:** Similarly, lacking data on the number of coders per million population in several countries makes it hard to gauge their technological talent base and potential for software development. This could again lead to them being undervalued in the overall assessment.

Impact on Pillar-wise Performance:

- **Skewed pillar scores:** If E-commerce adoption is a significant component of the Pillar One - on Digital Skills - its absence for Somalia and South Sudan could distort the pillar scores for these countries, making comparisons with other nations less reliable.

- **Limited insights:** For the missing coder data, as it relates to the Digital Skills pillar, the analysis would lack a crucial indicator of technical expertise within these populations. This could lead to incomplete understanding of their digital skill sets and hinder accurate comparisons across countries.

Impact on Overall Understanding:

- **Incomplete conclusions:** The missing data creates gaps in the understanding of digital readiness in certain countries and aspects. This can lead to potentially misleading conclusions about the overall landscape in Eastern Africa.
- **Reduced reliability:** The potential for underestimation or distorted scores weakens the overall reliability of the index as a comprehensive measure of digital readiness.

How this Index addresses this Limitation:

- **Sensitivity analysis:** We conduct a sensitivity analysis to assess how different plausible values for the missing data might affect the rankings and conclusions.
- **Qualitative methods:** We incorporate qualitative research methods - interviews with experts - to gather insights that compensate for the missing data.
- **Focus on available data:** We emphasize the findings based on the available data for, highlighting areas where conclusions are limited due to missing information.
- **Weight Redistribution:** To address the missing data on E-Commerce adoption and the relative number of coders per million population in certain countries, the study employed a weight redistribution approach. This entailed reassigning the weight initially allocated to the missing indicators among the remaining indicators within each relevant pillar. The specific redistribution applied was as follows:

The 25% weight originally allocated to "relative number of coders per million population" was distributed as follows:

- 10% to "percentage of youth enrolled in secondary school" (increased to 30%)
- 5% to "percentage of youth graduated from secondary school" (increased to 35%)
- 10% to "percentage of accredited universities offering IT courses" (increased to 25%)

This approach provide several benefits:

- **Maintained Pillar Integrity:** By reassigning the weights within each pillar, the overall importance of each pillar in the final index score remained unchanged.
- **Leveraged Available Data:** The increased weight to existing indicators allowed for greater emphasis on areas where reliable data were available, compensating for the gaps caused by missing information.

2. Data Quality and Reliability:

One of the limitations we encountered throughout this research is the reliance on open sources on the internet for data collection e.g. government websites, research reports, online databases. While this provides access to a vast array of information, it also introduces concerns about data quality and reliability. Some online sources may have inherent biases, inconsistencies, or inaccuracies, which can potentially impact the findings.

How this Index addresses this Limitation:

1. We carefully evaluate the credibility and trustworthiness of each online source used, considering factors like author credentials, publisher reputation, and publication date. Additionally, we seek out data from diverse sources to avoid relying solely on one perspective. This helped to **triangulate** the information and enhance overall data validity.
2. We incorporate **expert interviews** into the research process. These interviews provide valuable insights and allow us to cross-validate the findings from online sources. This **triangulation** strengthens the foundation of the research and helps to mitigate potential biases or inaccuracies in the data.

Digital Readiness Indicators

Pillar One: Digital Skills

| Country | Percentage of youth that enroll in Secondary School | Percentage of youth that graduate from Secondary School | Accredited Universities offering IT Courses relative to population of youth | E-Commerce Adoption | The relative number of coders per million population |
|-------------|---|---|---|---------------------------|--|
| Kenya | 56.76% | 50.5% | 24 * 29.6% = 7.104 | \$2.3 b | 1,095 |
| Somalia | 5.51% | 9.22% | 10 * 25.9% = 2.59 | Data unavailable | Data unavailable |
| Uganda | 24.18% | 16.3% | 20 * 29.9% = 5.98 | \$122.8 m | 287 |
| Tanzania | 28.67% | 10.6% | 16 * 26.7% = 4.272 | \$257.9 m | 135 |
| Rwanda | 46.09% | 20.7% | 17 * 29.1% = 4.947 | \$82.1 m | 610 |
| Burundi | 47.62% | 8.5% | 5 * 25.4% = 1.27 | \$7.9 m | Data unavailable |
| Ethiopia | 34.94% | 13.18% | 24 * 29.7% = 7.128 | \$228.6 m | 72 |
| South Sudan | 11% | 26.82% | 12 * 24.1% = 2.892 | Data unavailable | Data unavailable |
| Sudan | 45.86% | 29.4% | 16 * 27.9% = 4.464 | \$86.7 m | Data unavailable |
| DRC | 46.17% | 21.4% | 5 * 25.8% = 1.29 | \$16 b | Data unavailable |

Pillar Two: Government Support and Infrastructure

| Country | Ranking in the UN E-Government Development Index | Affordability (price of a smartphone as percentage of average monthly income) ¹¹ | Cost of the internet (1GB) | Smartphone penetration among the youth | Percentage of people with Internet Access | Access to Electricity |
|-------------|--|---|----------------------------|--|---|------------------------|
| Kenya | 116 | 43.04% | \$0.84 | 58.3% | 42% | 76.5% |
| Somalia | 192 | 45% | \$0.63 | 51.8% | 13.7% | 49.3% |
| Uganda | 144 | 81.24% | \$1.32 | 30% | 29.1% | 45.2% |
| Tanzania | 153 | 34.23% | \$0.71 | 30.7% | 25% | 42.7% |
| Rwanda | 119 | 44.88% | \$1.10 | 23.5% | 26.3% | 48.7% |
| Burundi | 171 | 221% | \$1.86 | 61.9% | 14.6% | 10% |
| Ethiopia | 179 | 96.81% | \$1.00 | 53.5% | 25% | 54.19% |
| South Sudan | 193 | 45% | \$7.00 | 22.12% | 7% | 7.75% |
| Sudan | 176 | 62% | \$0.75 | 36.6% | 30.9% | 61.77% |
| DRC | 175 | 82.63% | \$1.03 | 47.9% | 22.9% | 19% |

¹¹ Alliance for Affordable Internet: Device Pricing 2021; October 7, 2021: <https://a4ai.org/research/device-pricing-2021/>

Pillar Three: Online Safety

| Country | Ranking in the National Cybersecurity Index | Presence of a Data Protection Act |
|-------------|---|-----------------------------------|
| Kenya | 86 | Yes |
| Somalia | 138 | No |
| Uganda | 74 | Yes |
| Tanzania | 117 | Yes |
| Rwanda | 99 | Yes |
| Burundi | 159 | No |
| Ethiopia | 103 | Yes |
| South Sudan | 176 | No |
| Sudan | 127 | No |
| DRC | 166 | Yes |

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Country Ranking

Pillar One Ranking

| Rank | Country | Score |
|------|-------------|-------|
| 1 | Kenya | 8.3 |
| 2 | Sudan | 6.6 |
| 3 | DRC | 6.35 |
| 4 | Rwanda | 5.45 |
| 5 | South Sudan | 5.1 |
| 6 | Ethiopia | 4.45 |
| 7 | Uganda | 4.45 |
| 8 | Tanzania | 3.55 |
| 9 | Burundi | 3.4 |
| 10 | Somalia | 1.85 |

Pillar Two Ranking

| Rank | Country | Score |
|------|-------------|-------|
| 1 | Kenya | 9.05 |
| 2 | Sudan | 6.9 |
| 3 | Tanzania | 6.6 |
| 4 | Somalia | 5.8 |
| 5 | Rwanda | 5.6 |
| 6 | Ethiopia | 5.6 |
| 7 | Uganda | 4.95 |
| 8 | DRC | 4.4 |
| 9 | Burundi | 4.05 |
| 10 | South Sudan | 1.9 |

Pillar Three Ranking

| Rank | Country | Score |
|------|-------------|-------|
| 1 | Uganda | 10 |
| 2 | Kenya | 9.4 |
| 3 | Rwanda | 8.8 |
| 4 | Ethiopia | 8.2 |
| 5 | Tanzania | 7.6 |
| 6 | DRC | 5.2 |
| 7 | Sudan | 3 |
| 8 | Somalia | 2.4 |
| 9 | Burundi | 1.8 |
| 10 | South Sudan | 0.6 |

Final Ranking

Eastern Africa Youth Digital Readiness Index

| Rank | Country | Score |
|------|-------------|-------|
| 1 | Kenya | 26.75 |
| 2 | Rwanda | 19.85 |
| 3 | Uganda | 19.4 |
| 4 | Ethiopia | 18.25 |
| 5 | Tanzania | 17.75 |
| 6 | Sudan | 16.5 |
| 7 | DRC | 15.95 |
| 8 | Somalia | 10.05 |
| 9 | Burundi | 9.25 |
| 10 | South Sudan | 7.6 |

Country Highlights, Challenges, and Recommendations

1. Kenya

Kenya stands out as a frontrunner in youth digital readiness in Eastern Africa, with a total score of 26.75 in this Index.

Key Highlights:

- 1. Mobile Money Revolution:** MPesa, Kenya's pioneering mobile money platform, revolutionized financial inclusion. It transformed access to banking services, allowing even those without formal bank accounts to participate in the financial ecosystem¹². This success story not only boosted digital literacy and adoption but also paved the way for other innovative fintech solutions.
- 2. Savvy Tech Ecosystem:** Kenya hosts a thriving tech ecosystem, dubbed the "Silicon Savannah"¹³. Numerous local startups like Ajuu, Twiga, and Ushahidi have gained international recognition for tackling challenges in healthcare, agriculture, and citizen journalism. This entrepreneurial spirit fosters innovation and attracts investment, further propelling Kenya's digital transformation.
- 3. Government Support:** Kenya's government plays a proactive role in promoting digital infrastructure and initiatives. The Vision 2030¹⁴ plan prioritizes digital development, leading to investments in broadband internet access, fiber optic network expansion, and e-government services. This supportive environment facilitates digital adoption and creates a conducive climate for tech businesses.
- 4. Education and Skills Development:** Kenya recognizes the importance of digital literacy and invests in equipping its youth with relevant skills. Numerous coding academies, IT education programs, and initiatives like AkiraChix¹⁵ cater to different skill levels, empowering individuals to participate in the digital economy. This focus on skills development ensures a future-proof workforce capable of navigating the digital world.

¹² <https://www.sciencedirect.com/science/article/abs/pii/B9780128104415000038>

¹³ <https://www.ubuntu.life/blogs/news/welcome-to-the-silicon-savannah-how-kenya-is-becoming-the-next-global-tech-hub>

¹⁴ <https://vision2030.go.ke/about-vision-2030/>

¹⁵ <https://akirachix.com/>

5. **Collaborative Ecosystem:** Collaboration between the government, private sector, and civil society plays a crucial role in Kenya's digital success. Public-private partnerships drive infrastructure development, and initiatives like the Kenya ICT Authority foster collaboration between tech companies and educational institutions. This collaborative approach accelerates progress and ensures inclusivity in the digital transformation journey.

Challenges

1. **Uneven Distribution:** Kenya's digital boom primarily benefits urban areas, leaving rural communities lagging behind. Limited internet access, lack of affordable devices, and lower digital literacy hinder rural populations from reaping the benefits of digital solutions.
2. **Affordability Barrier:** Despite progress, accessing digital tools and services remains expensive for many Kenyans. Data costs, smartphone prices, and internet subscriptions can strain household budgets, limiting inclusivity and participation in the digital economy.
3. **Cybersecurity Concerns:** As Kenya's digital landscape expands, so do vulnerabilities to cyber threats. Data breaches, online scams, and malware attacks pose significant risks, particularly for individuals with limited cybersecurity awareness.
4. **Skills Gap:** While Kenya invests in digital skills development, the demand for skilled IT professionals often outpaces the supply. The existing skills gap hampers innovation, limits the uptake of advanced technologies, and hinders the full potential of the digital economy.

Recommendations:

1. **Bridging the Digital Divide:** Focus on rural infrastructure development, public-private partnerships for affordable devices, and targeted digital literacy programs in underserved communities.
2. **Democratizing Digital Access:** Explore innovative financing models, subsidize data costs for low-income groups, and promote open-source tools and affordable internet bundles.
3. **Building a Digital Shield:** Invest in cybersecurity infrastructure, raise awareness through outreach campaigns, and collaborate with international partners to combat cyber threats.

4. **Nurturing Tech Talent:** Expand access to STEM education, incentivize private sector participation in skills development, and create flexible learning pathways for continuous upskilling and reskilling.

2. Rwanda

Rwanda has emerged as a regional leader in digital innovation and governance. The country emerged second in this Index, with a score of 19.85.

Key Highlights:

1. **Smart City Rwanda Initiative:** The Smart City Rwanda aims to transform Rwanda into a sustainable, tech-driven country¹⁶. This ambitious project leverages various technologies like e-governance, smart transportation, and citizen engagement platforms to improve service delivery, efficiency, and transparency. Kigali's commitment to urban smart solutions makes it a model for other African cities. Youth empowerment is at the heart of this initiative.
2. **Government Efficiency with ICT:** Rwanda actively promotes e-government, digitizing public services and enhancing accessibility. Platforms like Irembo allow citizens to access various government services online, from registering businesses to paying taxes. This transparency and ease of access boost trust and efficiency in government operations.
3. **Education Revolution:** Rwanda prioritizes education as a pillar of development, leveraging tech to improve its quality and reach. Initiatives like the One Laptop per Child program¹⁷ provided laptops to students, while virtual classrooms connect remote areas to quality education. These technology-driven solutions expand educational opportunities and bridge the digital divide.
4. **Fintech Innovation:** Rwanda fosters a vibrant fintech ecosystem, encouraging innovative solutions to financial inclusion challenges. Mobile money platform Mobile Rwandatel¹⁸ has

¹⁶https://www.minict.gov.rw/fileadmin/user_upload/minict_user_upload/Documents/Strategies/Smart_City_Rwanda_Masterplan.pdf

¹⁷<https://www.reb.gov.rw/olpc>

¹⁸<https://www.africa-internet.com/en/provider/rwanda/rwandatel/>

become widely popular, empowering citizens with access to financial services and driving economic growth. This success story encourages further tech-driven solutions in finance.

5. **Technology Parks and Hubs:** Rwanda invests in technology parks and hubs like Kigali ICT Park and kLab, providing conducive environments for tech startups and entrepreneurs. These initiatives attract talent, investment, and foster innovation, contributing to a thriving tech ecosystem.
6. **Broadband Infrastructure:** Recognizing the importance of connectivity, Rwanda has made significant strides in expanding its broadband infrastructure. This ensures wider access to the internet, vital for accessing information, services, and opportunities in the digital economy.
7. **Digital Skills Development:** Rwanda recognizes the need for a digitally skilled workforce and invests heavily in digital literacy programs and training initiatives. These programs cater to different skill levels and areas, preparing youths for jobs in the digital age.

Challenges:

1. **Urban Bias:** Similar to Kenya, Rwanda's digital success primarily shines in urban areas. Rural communities often lack robust connectivity, affordable devices, and digital literacy skills, hindering their participation in the digital economy.
2. **Sustainability Concerns:** The Smart City Rwanda and other ambitious projects require significant financial resources and infrastructure investment.
3. **Limited Inclusivity:** While government services are increasingly digitized, access to necessary technology and skills remains a barrier for some Rwandans, particularly rural youth.
4. **Data Privacy and Security:** Rwanda's rapid digitalization raises concerns about data privacy and security.
5. **Cybercrime Vulnerability:** As online activity increases, so does the risk of cybercrime.
6. **Skills Gap and Brain Drain:** Rwanda faces a shortage of skilled IT professionals, hindering the potential of its digital economy. While skill development programs exist, retaining talent and preventing brain drain to developed countries remains a challenge.
7. **Dependence on External Support:** Many of Rwanda's digital initiatives rely heavily on foreign aid and expertise.

Recommendations:

1. **Bridging the Rural Divide:** Implement affordable rural connectivity solutions, promote digital literacy programs in local languages, and invest in affordable devices specifically targeted at rural communities.
2. **Prioritize Sustainable Projects:** Ensure project design considers long-term maintenance and affordability, prioritize initiatives with direct benefits for rural populations, and involve local communities in the planning and implementation stages.
3. **Champion Digital Inclusivity:** Develop targeted programs to address the needs of marginalized groups, provide subsidized devices and internet access, and offer digital literacy training tailored to different demographics.
4. **Strengthen Data Governance:** Implement comprehensive data protection legislation, build robust cybersecurity infrastructure, and raise awareness among citizens about online safety practices.
5. **Enhance Cybersecurity Measures:** Invest in cybersecurity skills training, establish incident response protocols, and collaborate with international partners to share best practices and combat cyber threats.
6. **Nurture Digital Talent:** Expand access to STEM education, create attractive career paths for IT professionals, and offer incentives to retain talent within the country.
7. **Foster Independence in Technology:** Invest in local research and development initiatives, encourage knowledge transfer from foreign partners, and promote the creation of locally developed digital solutions.

3. Uganda

Uganda's vibrant entrepreneurial spirit and growing ICT sector contribute to its youth digital readiness. The country emerged third in this Index, with a score of 19.4.

Key Highlights:

1. **Mobile Money Boom:** Following Kenya's lead, Uganda has embraced mobile money with platforms like MTN Mobile Money and Airtel Money becoming widely used¹⁹. This financial

¹⁹ <https://www.reuters.com/markets/companies/MTNU.UG>

inclusion revolution has boosted financial access, particularly in rural areas, and spurred economic growth.

2. **e-Government Initiatives:** Uganda actively digitizes public services through initiatives like e-Tax and e-Procurement. These platforms improve transparency, efficiency, and accessibility of government services for citizens and businesses.
3. **Rural Connectivity Programs:** Recognizing the rural-urban divide, Uganda invests in initiatives like the Rural Communications Development Fund to expand internet access and connectivity in underserved areas. This paves the way for rural communities to participate in the digital economy.
4. **Innovation Hubs and Startup Ecosystem:** Kampala hosts growing innovation hubs²⁰ like HiveColab and The Innovation Village, fostering a vibrant startup ecosystem. These hubs provide support, resources, and networking opportunities for tech entrepreneurs, propelling innovation and digital ventures.
5. **Cybercrime Awareness and Legislation:** Uganda actively combats cybercrime through initiatives like the National Computer Emergency Response Team²¹ and the enactment of the Computer Misuse Act. This focus on online security protects citizens and businesses from cyber threats.
6. **Open Data Initiatives:** Uganda promotes open data initiatives like the Uganda Data Portal²², making government data publicly accessible. This transparency and ease of access empower citizens to hold the government accountable and foster civic engagement.
7. **Digital Agriculture Solutions:** Ugandan startups are developing innovative digital solutions for the agricultural sector²³, like mobile platforms for weather updates, market information, and access to financing. These solutions improve agricultural productivity and farmer livelihoods.

Challenges:

1. **Uneven Connectivity:** Despite initiatives like the Rural Communications Development Fund²⁴, internet access and infrastructure remain concentrated in urban areas. Rural

²⁰ <https://hivecolab.org/>

²¹ [About Us | Uganda National Computer Emergency Response Team-National Cert,](#)

²² <https://uganda.opendataforafrica.org/>

²³ [The Digital Revolution for the agricultural sector in Uganda.](#)

²⁴ <https://mbalecity.go.ug/projects/rural-communications-development-fund-rcdf>

communities often lack sufficient coverage, reliable connections, and affordable data plans, hindering their access to online opportunities.

2. **Affordability Barrier:** Mobile money and digital services, while beneficial, can be cost-prohibitive for many Ugandans. High data costs, smartphone prices, and internet subscription fees limit inclusivity and prevent broader participation in the digital economy.
3. **Limited Digital Literacy:** While Uganda prioritizes ICT education, digital literacy skills vary significantly across age groups and demographics. A large portion of the population, particularly in rural areas, lacks basic digital knowledge, hindering their ability to navigate the online world.
4. **Cybersecurity Vulnerabilities:** Uganda's focus on cybercrime awareness and legislation is commendable, but implementation lags behind. Weak cybersecurity infrastructure, limited technical expertise, and potential gaps in legal enforcement mechanisms leave individuals and businesses vulnerable to online threats.
5. **Gender and Youth Participation Gap:** Women and youth, despite constituting a significant portion of the population, are often underrepresented in Uganda's digital landscape. Cultural barriers, limited access to resources, and lack of targeted programs hinder their participation in digital skills development, entrepreneurship, and leadership roles in the tech sector.
6. **Sustainability Concerns:** Some digital initiatives, particularly e-government platforms, rely heavily on foreign aid and partnerships.
7. **Brain Drain and Talent Retention:** Uganda faces a challenge in retaining skilled IT professionals. Attractive career opportunities and higher salaries abroad lure valuable talent, hindering the development of a strong local tech workforce²⁵.

Recommendations:

1. **Focus on Rural Connectivity:** Implement affordable rural connectivity solutions, prioritize public-private partnerships for infrastructure development, and explore alternative technologies like satellite internet in remote areas.

²⁵<https://allianceforscience.org/blog/2021/08/uganda-invests-in-science-to-stop-brain-drain-and-drive-economic-growth/>

2. **Address Affordability Issues:** Encourage competition among service providers, explore subsidized data plans for low-income groups, and promote low-cost internet bundles catering to specific needs.
3. **Bridge the Digital Skills Gap:** Expand access to ICT education across all age groups and demographics, develop localized training programs in local languages, and utilize alternative learning methods like mobile apps and gamified platforms.
4. **Enhance Cybersecurity Resilience:** Invest in robust cybersecurity infrastructure, strengthen legal frameworks and enforcement mechanisms, and raise awareness among citizens about online safety practices.
5. **Empower Women and Youth:** Design digital initiatives addressing the specific needs and challenges of women and youth, promote mentorship programs and leadership opportunities, and provide resources and training to support their participation in the digital economy.
6. **Foster Self-Reliance in Technology:** Invest in local research and development initiatives, encourage knowledge transfer from international partners, and promote the creation of Uganda-specific digital solutions tailored to local needs and contexts.
7. **Attract and Retain Tech Talent:** Develop competitive salary structures, offer career development opportunities, and create a vibrant tech ecosystem with attractive working conditions and collaborative spaces.

4. Ethiopia

Ethiopia's large youth population and expanding ICT sector hold promise for enhancing youth digital readiness. The country's efforts to bridge the digital divide and promote digital inclusion are noteworthy. The country emerged fourth in this Index, with a score of 18.25.

Key Highlights:

1. Strong government commitment to digitalization: The government's focus on building a digital economy provides clear direction and fosters collaboration between stakeholders²⁶.

²⁶ <https://ecdpm.org/work/ethiopias-digital-economy-blooming-needs-investment>

2. Rapid mobile technology adoption: The success of Telebirr²⁷ highlights the potential for further innovation and digital inclusion through mobile platforms.
3. Entrepreneurial spirit and young population: Ethiopia's tech hub ecosystem²⁸ and the large youth population offer a valuable pool of talent and potential for driving future digital growth.

Challenges:

1. **Persistent Infrastructure Gaps:** Expanding internet access, particularly in rural areas, and developing reliable infrastructure require continued investment and innovative solutions. Public-private partnerships, exploring alternative technologies like satellite internet, and prioritizing rural areas are crucial to bridge the infrastructure gap.
2. **Affordability Constraints:** Making internet access and digital devices affordable for all Ethiopians is crucial for achieving inclusive digital development. Encouraging competition among service providers, exploring subsidized data plans for low-income groups, and promoting affordable internet bundles catering to specific needs can address this barrier.
3. **Digital Literacy Disparities:** Addressing the digital skills gap, particularly among marginalized youths, is essential for ensuring everyone benefits from the digital economy. Implementing targeted literacy programs in local languages, utilizing alternative learning methods like mobile apps and gamified platforms, and providing accessible training to all demographics are key to bridging this gap.

Recommendations:

1. **Fostering Self-Reliance in Technology:** Invest in local research and development initiatives, encourage knowledge transfer from international partners, and promote the creation of Ethiopia-specific digital solutions tailored to local needs and contexts.
2. **Building a Vibrant Tech Ecosystem:** Encourage entrepreneurship through tech hubs and startup programs, attract investments, and create a conducive environment for innovation and collaboration.

²⁷ <https://www.ethiotelecom.et/telebirr/>

²⁸ <https://www.gsma.com/mobilefordevelopment/blog/the-ethiopia-tech-ecosystem-a-sleeping-giant-is-waking-up/>

3. **Promoting Collaboration and Partnerships:** Partner with international organizations, tech companies, and education institutions to share resources, expertise, and best practices.
4. **Prioritizing Sustainability:** Ensure digital initiatives are financially sustainable and consider long-term maintenance and affordability when implementing projects.

5. Tanzania

Tanzania's youth represent a significant force for digital transformation. The country's growing ICT sector and increasing access to technology present opportunities for youth empowerment. The country emerged fifth in this Index, with a score of 17.75.

Key Highlights:

1. **Mobile Money Penetration:** Tanzania boasts the second highest mobile money penetration in East Africa, after Kenya, with a 72% penetration rate; dominated by M-Pesa and Tigo Pesa²⁹. This has enabled financial inclusion and easy transactions even in remote areas.
2. **Digital Skills Push:** Initiatives like Panda Digital³⁰ are equipping youth with skills like content creation and web development, opening doors to online jobs and entrepreneurship.
3. **Government on Board:** From e-services platforms³¹ to embracing open data, Tanzania's government is leading by example.
4. **Innovation Hubs:** NMB Bank's Innovation Hub³² is just one example of fostering tech adoption and creative solutions.
5. **Bridging the Connectivity Gap:** Expanding internet access through fiber optic cables and rural initiatives is connecting more Tanzanians³³.

Challenges:

²⁹ <https://www.tigo.co.tz/tigo-pesa/>

³⁰ <https://pandadigital.co.tz/>

³¹ <https://eservices.immigration.go.tz/>

³² [NMB Bank's innovation success story transformation gives unparalleled customer satisfaction](#)

³³ [Tanzania: Overview of Data Infrastructure in East Africa - Bowmans](#)

1. **Infrastructure Gaps:** Uneven distribution of internet access, particularly in rural areas, hinders online connectivity and digital services penetration.
2. **Digital Literacy Deficit:** Limited digital literacy skills restrict individual and community potential to fully utilize technology and engage in the digital economy.
3. **Affordability Barriers:** High data costs and limited access to affordable devices can exclude low-income populations from digital opportunities.
4. **Cybersecurity Concerns:** Lack of robust cybersecurity infrastructure and awareness leaves online transactions and data vulnerable to cyberattacks.
5. **Regulatory Frameworks:** Evolving digital technologies require adaptable and comprehensive regulations to ensure responsible and inclusive growth.

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Recommendations:

1. **Infrastructure Expansion:** Public-private partnerships and innovative solutions like community mesh networks and satellite internet can expand connectivity reach.
2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on rural communities and marginalized groups, is crucial.
3. **Digital Inclusion Initiatives:** Affordable data plans, subsidized hardware, and public access facilities can bridge the affordability gap and offer equal opportunities.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness, and promoting online safety practices are essential for a secure digital ecosystem.
5. **Agile Regulatory Frameworks:** Regularly reviewing and updating regulations to embrace new technologies while addressing risks and promoting ethical practices is key.
6. **Localization and Relevance:** Content and services need to be localized and relevant to the Tanzanian context and language to truly resonate with the populace.
7. **Entrepreneurial Ecosystem:** Fostering a supportive environment for tech startups and innovation hubs can drive local solutions and talent development.
8. **Collaboration and Partnerships:** Multi-stakeholder collaboration between government, private sector, civil society, and academic institutions is vital for coordinated and sustainable digital transformation.

6. Sudan

Sudan's youth have demonstrated their potential in the digital realm, despite challenges faced by the country. The increasing prevalence of technology and growing number of tech-savvy youth offer avenues for progress. The country emerged sixth in this Index, with a score of 16.5.

Key Highlights:

1. **Mobile Money Momentum:** Similar to Tanzania, mobile money penetration is rising in Sudan, with platforms like MTN MobileMoney³⁴ and Zain Cash gaining traction.

³⁴ <https://www.mtn.sd/mtn/how-to/mobile-amwal/>

2. **E-government Initiatives:** Efforts like the Sudan Integrated Management Information System³⁵ are streamlining electronic services for citizens and businesses.
3. **Tech Hubs on the Rise:** Initiatives like the Impact Hub Khartoum³⁶ nurture a growing tech ecosystem. These spaces provide young developers and entrepreneurs with resources and support to build innovative solutions for local needs.
4. **Youth Skills Development:** Training programs like the Youth, Employment and Skills³⁷ the European Union equips young people with digital literacy and relevant skills for the digital economy.

Challenges:

1. **Limited Infrastructure:** Insufficient and unevenly distributed internet access, particularly in rural areas, hinders connectivity and limits opportunities for online services and participation in the digital economy.
2. **Digital Literacy Deficit:** Low levels of digital literacy among the population restrict their ability to navigate the digital world effectively, limiting their access to education, healthcare, and economic opportunities.
3. **Affordability Barriers:** High data costs and limited access to affordable devices disproportionately impact low-income individuals and communities, exacerbating the digital divide.
4. **Cybersecurity Vulnerabilities:** Lack of robust cybersecurity infrastructure and awareness leaves government services, businesses, and individuals vulnerable to cyberattacks, compromising data security and hindering trust in online platforms.
5. **Fragmented Regulatory Landscape:** Evolving digital technologies present challenges for a regulatory framework that may not be agile enough to address emerging issues and ensure responsible and inclusive growth.

³⁵<https://www.synisys.com/news/synergy-to-develop-integrated-management-information-system-for-the-government-of-sudan/>

³⁶<https://techbuild.africa/impact-hub-khartoum-boosting-innovation-sudan/>

³⁷https://trust-fund-for-africa.europa.eu/our-programmes/youth-employment-skills-yes-sudan_en

6. **Political Instability and Economic Uncertainty:** Ongoing political and economic instability can create an environment that discourages investment in digital infrastructure and development.

Recommendations:

1. **Infrastructure Expansion:** Public-private partnerships, innovative solutions like community mesh networks and satellite internet, and rural connectivity initiatives can expand access to the internet across the country.
2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on underserved communities and rural areas, is crucial to equip individuals with the skills needed to navigate the digital world.
3. **Digital Inclusion Initiatives:** Subsidized data plans, affordable devices, and public access facilities can bridge the affordability gap and ensure equitable access to digital opportunities.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness through campaigns and education, and promoting online safety practices are essential for a secure digital ecosystem.
5. **Agile Regulatory Framework:** Regularly reviewing and updating regulations to adapt to new technologies, address emerging risks, and promote ethical practices is key to fostering responsible digital growth.
6. **Promoting Stability and Investment:** Encouraging political stability and economic reforms can create a more attractive environment for investment in digital infrastructure and development.
7. **Localization and Relevance:** Content and services need to be localized and relevant to the Sudanese context and language to truly resonate with the populace.
8. **Entrepreneurial Ecosystem:** Fostering a supportive environment for tech startups and innovation hubs can drive local solutions and talent development.
9. **Collaboration and Partnerships:** Multi-stakeholder collaboration between government, private sector, civil society, and academic institutions is vital for coordinated and sustainable digital transformation.

10. **Peacebuilding and Stability Efforts:** Addressing ongoing conflict and promoting stability is crucial for creating a conducive environment for digital development. This requires sustained peace efforts, conflict resolution initiatives, and ensuring public safety.

7. DRC

Despite ongoing conflicts, the DRC's youth are increasingly engaging with technology, showcasing their potential for digital readiness. The country's rich mineral resources and growing ICT sector present opportunities for digital growth. The country emerged seventh in this Index, with a score of 15.95

Key Highlights:

1. **Mobile Money Momentum:** Similar to Tanzania and Sudan, mobile money is on the rise in the DRC, with platforms like M-Pesa and Orange Money gaining traction. This facilitates financial inclusion, especially in rural areas where traditional banking services are scarce. This surge in mobile money usage is fostering a cashless society and boosting financial security for many Congolese.
2. **E-government Initiatives:** The DRC government is making strides towards e-government, with initiatives like the *Projet d'Appui à la Modernisation de l'Administration Fiscale*³⁸ (PAMAF) streamlining tax administration and online services. This promotes transparency and efficiency in government operations, reducing red tape and improving citizen experience.
3. **Tech Hubs Taking Root:** The DRC is witnessing the emergence of tech hubs like the Afrilabs, the Kinshasa Digital Hub, and the Kinshasa Innovation Hub³⁹; providing co-working spaces, mentorship, and resources for young entrepreneurs and developers. These hubs nurture a growing tech scene and foster innovation, driving local solutions and talent development.
4. **Rural Connectivity Expansion:** Programs like the *Projet Backbone National à Fibre Optique*⁴⁰ (BNFO) are expanding internet access in rural areas through fiber optic

³⁸<https://www.afdb.org/fr/documents/rdc-projet-dappui-la-modernisation-des-finances-publiques-pam-fp-rapport-devaluation-de-projet>

³⁹[How to find software developers in Kinshasa, Congo \(Kinshasa\).](#)

⁴⁰https://www-agenceecofin-com.translate.goog/infrastructures/1109-111608-republique-du-congo-lancement-des-travaux-de-construction-du-nouveau-backbone-national? x_tr_sl=fr& x_tr_tl=en& x_tr_hl=en& x_tr_pto=sc

infrastructure. This bridges the digital divide, connecting remote communities to essential services like education and healthcare, and opening up economic opportunities.

5. **Bridging the Digital Literacy Gap:** Initiatives like the Projet d'Alphabétisation Numérique des Jeunes et des Femmes⁴¹ (ALNUJEF) are equipping young people and women with digital literacy skills. This empowers them to participate in the digital economy, access online information and services, and contribute to the country's digital transformation.

Challenges:

1. **Limited Infrastructure:** Uneven and insufficient internet access, particularly in rural areas, hinders connectivity and limits opportunities for online participation.
2. **Digital Literacy Deficit:** Low levels of digital literacy among the population restrict their ability to navigate the digital world effectively, limiting access to education, healthcare, and economic opportunities.
3. **Affordability Barriers:** High data costs and limited access to affordable devices disproportionately impact low-income individuals and communities, exacerbating the digital divide.
4. **Cybersecurity Vulnerabilities:** Lack of robust cybersecurity infrastructure and awareness leaves government services, businesses, and individuals vulnerable to cyberattacks, compromising data security and hindering trust in online platforms.
5. **Fragmented Regulatory Landscape:** Evolving digital technologies present challenges for a regulatory framework that may not be agile enough to address emerging issues and ensure responsible and inclusive growth.
6. **Political Instability and Economic Uncertainty:** Ongoing political and economic instability can create an environment that discourages investment in digital infrastructure and development.

Recommendations:

1. **Infrastructure Expansion:** Public-private partnerships, innovative solutions like community mesh networks and satellite internet, and rural connectivity initiatives can expand access to the internet across the country.

⁴¹<https://cio-mag.com/congo-le-numerique-au-service-de-lalphabetisation/>

2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on underserved communities and rural areas, is crucial to equip individuals with the skills needed to navigate the digital world.
3. **Digital Inclusion Initiatives:** Subsidized data plans, affordable devices, and public access facilities can bridge the affordability gap and ensure equitable access to digital opportunities.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness through campaigns and education, and promoting online safety practices are essential for a secure digital ecosystem.
5. **Promoting Stability and Investment:** Encouraging political stability and economic reforms can create a more attractive environment for investment in digital infrastructure and development.

8. Somalia

Somalia's youth have shown remarkable resilience in embracing technology amidst ongoing conflict and humanitarian crises. The country's growing mobile phone usage and emergence of tech startups demonstrate their potential for digital advancement. The country emerged eighth in this Index, with a score of 10.05

Key Highlights:

1. **Tech Hubs Emerging:** Mogadishu's iRise Hub⁴² and Hargeisa's Tech Innovation Hub⁴³ are nurturing a nascent tech ecosystem. These hubs provide young entrepreneurs with co-working spaces, mentorship, and resources, fostering local innovations and talent development. Think Somali-built solutions tackling local challenges.
2. **Education Goes Digital:** Initiatives digitizing education and⁴⁴ Somali Digital Library⁴⁵ are bridging the education gap through online learning platforms and digital resources. This provides access to quality education for students in remote areas and those facing conflict-related disruptions. Imagine children in even the most challenging circumstances having access to a world of knowledge.

⁴² <https://irisehub.so/>

⁴³ <http://www.harhub.com/>

⁴⁴ <https://blogs.worldbank.org/digital-development/keeping-students-connected-somalia>

⁴⁵ <https://www.facebook.com/SomaliDigitalLibrary/>

3. **Connecting the Unconnected:** There is concerted effort⁴⁶ in expanding internet access in rural areas through fiber optic infrastructure and solar-powered solutions. This connects previously isolated communities to essential services like healthcare and education, opening doors to new opportunities.

Challenges:

1. **Limited Infrastructure:** Uneven and insufficient internet access, particularly in rural areas, hinders connectivity and limits opportunities for online participation. This is largely due to factors like security concerns, lack of investment, and challenging terrain.
2. **Digital Literacy Deficit:** Low levels of digital literacy among the population restrict their ability to navigate the digital world effectively, limiting access to education, healthcare, and economic opportunities. This is often tied to limited educational access and resource constraints.
3. **Affordability Barriers:** High data costs and limited access to affordable devices disproportionately impact low-income individuals and communities, exacerbating the digital divide. This is compounded by fragile economic conditions and limited access to formal banking.
4. **Cybersecurity Vulnerabilities:** Lack of robust cybersecurity infrastructure and awareness leaves government services, businesses, and individuals vulnerable to cyberattacks, compromising data security and hindering trust in online platforms. This is further intensified by limited expertise and resources in cybersecurity.
5. **Security Concerns:** Ongoing conflict and instability create a challenging environment for digital development, impacting infrastructure deployment and raising concerns about online safety and data privacy. This hinders investment and discourages some digital initiatives.
6. **Fragmented Regulatory Landscape:** Evolving digital technologies present challenges for a regulatory framework that may not be agile enough to address emerging issues and ensure responsible and inclusive growth. This is often due to limited capacity and experience in regulating digital domains.

Recommendations:

⁴⁶<https://documents1.worldbank.org/curated/en/116581622209259131/pdf/Somalia-Second-Phase-of-the-ICT-Sector-Support-Project.pdf>

1. **Infrastructure Expansion:** Public-private partnerships, innovative solutions like community mesh networks and satellite internet, and rural connectivity initiatives can expand access to the internet across the country. This requires investment, collaboration, and prioritizing rural areas.
2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on marginalized communities and rural areas, is crucial to equip individuals with the skills needed to navigate the digital world. Mobile learning platforms and community-based training can be effective strategies.
3. **Digital Inclusion Initiatives:** Subsidized data plans, affordable devices, and public access facilities can bridge the affordability gap and ensure equitable access to digital opportunities. Public-private partnerships, targeted subsidies, and innovative device financing models can play a role.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness through campaigns and education, and promoting online safety practices are essential for a secure digital ecosystem. International cooperation, capacity building programs, and awareness campaigns can be impactful.
5. **Peacebuilding and Stability Efforts:** Addressing ongoing conflict and promoting stability is crucial for creating a conducive environment for digital development. This requires sustained peace efforts, conflict resolution initiatives, and ensuring public safety.
6. **Agile Regulatory Framework:** Regularly reviewing and updating regulations to adapt to new technologies, address emerging risks, and promote ethical practices is key to fostering responsible digital growth. This requires expertise, stakeholder engagement, and adaptability.

9. Burundi

Burundi's youth are increasingly engaging with technology, despite facing poverty and limited access to education. The country's efforts to promote ICT adoption and digital literacy hold promise for future digital readiness. The country emerged ninth in this Index, with a score of 9.25

Key Highlights:

1. **Tech Hubs Taking Root:** Initiatives such as Gitega's Centre Informatique de l'Université du Burundi⁴⁷ are nurturing a nascent tech ecosystem. These hubs provide young entrepreneurs and developers with co-working spaces, mentorship, and resources, fostering local innovation and talent development.
2. **Youth Digital Skills Development:** Initiatives by the international community⁴⁸ are equipping young people with digital literacy skills. This empowers them to participate in the digital economy, access online information and services, and contribute to the country's digital transformation.

Challenges:

1. **Limited Infrastructure:** Uneven and insufficient internet access, particularly in rural areas, hinders connectivity and limits online participation. This is mainly due to:
 - a. **Mountainous terrain:** Creating physical infrastructure challenges.
 - b. **Lack of investment:** Public and private resources are limited.
 - c. **Inadequate maintenance:** Existing infrastructure may not be properly maintained.
2. **Digital Literacy Deficit:** Low levels of digital literacy among the population restrict their ability to navigate the digital world effectively, limiting access to education, healthcare, and economic opportunities. This is often tied to:
 - a. **Limited educational access:** Many Burundians have limited access to formal education, including IT education.
 - b. **Resource constraints:** Access to devices and internet for learning is limited, particularly in rural areas.
3. **Affordability Barriers:** High data costs and limited access to affordable devices disproportionately impact low-income individuals and communities, exacerbating the digital divide. This is compounded by:

⁴⁷ <https://www.ub.edu.bi/?page=44>

⁴⁸ https://www-banquemondiale-org.translate.google.fr/news/press-release/2021/06/25/women-and-youth-at-the-center-of-the-world-bank-s-priorities-in-burundi?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc

- a. **Fragile economic situation:** Burundi is a low-income country with limited purchasing power.
 - b. **Limited access to formal banking:** This makes accessing internet payment methods difficult for many.
4. **Cybersecurity Vulnerabilities:** Lack of robust cybersecurity infrastructure and awareness leaves government services, businesses, and individuals vulnerable to cyberattacks, compromising data security and hindering trust in online platforms. This is due to:
 - a. **Limited expertise and resources:** Burundi lacks trained personnel and dedicated funding for cybersecurity measures.
 - b. **Low public awareness:** Individuals may not be aware of online threats and safe practices.
5. **Complex Political Landscape:** Political instability and a history of conflict create a challenging environment for digital development. This discourages investment, hinders infrastructure deployment, and raises concerns about online safety and data privacy. This includes:
 - a. **Uncertainty and instability:** Political unrest can disrupt progress and divert resources.
 - b. **Restrictions on online freedom:** Limited freedom of expression and access to information can hinder online participation.
6. **Fragmented Regulatory Landscape:** Evolving digital technologies present challenges for a regulatory framework that may not be agile enough to address emerging issues and ensure responsible and inclusive growth. This can be attributed to:
 - a. **Limited capacity and experience:** Burundian regulators may lack expertise in regulating new technologies.
 - b. **Lack of adaptation:** Regulations may not keep pace with the rapid evolution of the digital landscape.

Recommendations:

1. **Infrastructure Expansion:** Public-private partnerships, innovative solutions like community mesh networks and satellite internet, and rural connectivity initiatives can expand access to the internet across the country.
2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on marginalized communities and rural areas, is crucial to equip individuals with the skills needed to navigate the digital world.
3. **Digital Inclusion Initiatives:** Subsidized data plans, affordable devices, and public access facilities can bridge the affordability gap and ensure equitable access to digital opportunities.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness through campaigns and education, and promoting online safety practices are essential for a secure digital ecosystem.
5. **Peacebuilding:** Building positive peace is crucial for creating a conducive environment for digital development.
6. **Agile Regulatory Framework:** Regularly reviewing and updating regulations to adapt to new technologies, address emerging risks, and promote ethical practices is key to fostering responsible digital growth.

10. South Sudan

Despite facing protracted conflict and economic instability, South Sudan's youth are demonstrating their resilience and innovation in the digital sphere. The country's growing mobile phone penetration and increasing number of tech-savvy youth offer a glimmer of hope for digital progress. The country ranked tenth in this Index, with a score of 7.6.

Key Highlights:

1. **Mobile Money Momentum:** Similar to its East African neighbors, South Sudan is experiencing a surge in mobile money adoption. Platforms like Equitel Mobile Money and mJang are facilitating financial inclusion, particularly in rural areas where traditional banking is scarce. This empowers individuals, fosters economic activity, and promotes cashless transactions.

2. **E-government Initiatives:** The South Sudanese government is making steps towards e-government⁴⁹.
3. **Youth Digital Skills Development:** Several initiatives⁵⁰ are equipping young people with digital literacy skills⁵¹. This empowers them to participate in the digital economy, access online information and services, and contribute to the country's digital transformation, fostering a skilled workforce for the future.

Challenges:

1. **Limited Infrastructure:** Uneven and insufficient internet access, particularly in rural areas, hinders connectivity and limits online participation. This is mainly due to conflict-related damage to infrastructure, lack of investment, and challenging terrain. Limited access to electricity further restricts potential for internet and device usage.
2. **Digital Literacy Deficit:** Low levels of digital literacy among the population restrict their ability to navigate the digital world effectively, limiting access to education, healthcare, and economic opportunities. This is often tied to limited educational access and resource constraints. Lack of awareness about online safety and cyber threats can further disadvantage vulnerable populations.
3. **Affordability Barriers:** High data costs and limited access to affordable devices disproportionately impact low-income individuals and communities, exacerbating the digital divide. This is compounded by economic challenges and limited access to formal banking.
4. **Cybersecurity Vulnerabilities:** Lack of robust cybersecurity infrastructure and awareness leaves government services, businesses, and individuals vulnerable to cyberattacks, compromising data security and hindering trust in online platforms. Limited expertise and resources in cybersecurity further aggravate this vulnerability.
5. **Security Concerns:** Ongoing conflict and instability create a challenging environment for digital development, impacting infrastructure deployment and raising concerns about online safety and data privacy. This discourages investment and hinders some digital initiatives.

⁴⁹ <https://mofp.gov.ss/wp-content/uploads/2023/11/MinistryofInformation-Hon.MichaelMakuei.pdf>

⁵⁰ <https://sudantribune.com/article271053/>

⁵¹ <https://www.sparc-knowledge.org/news-blog/blog/bridging-generational-digital-skills-and-knowledge-gap-south-sudan>

6. **Fragmented Regulatory Landscape:** Evolving digital technologies present challenges for a regulatory framework that may not be agile enough to address emerging issues and ensure responsible and inclusive growth. Limited experience and capacity in regulating digital domains contribute to this fragmentation.
7. **Gender Gap:** Women and girls often face additional barriers to accessing and utilizing digital technologies, further widening the digital divide. Social norms, limited access to education and resources, and safety concerns can disproportionately impact their digital participation.

Recommendations:

1. **Infrastructure Expansion:** Public-private partnerships, innovative solutions like community mesh networks and satellite internet, and rural connectivity initiatives can expand access to the internet across the country. This requires investment, collaboration, and prioritizing rural areas.
2. **Digital Literacy Programs:** Investing in comprehensive digital literacy training programs, with a focus on marginalized communities and rural areas, is essential. Mobile learning platforms and community-based training can be effective strategies.
3. **Digital Inclusion Initiatives:** Subsidized data plans, affordable devices, and public access facilities can bridge the affordability gap and ensure equitable access to digital opportunities. Public-private partnerships, targeted subsidies, and innovative device financing models can play a role.
4. **Cybersecurity Awareness and Infrastructure:** Building robust cybersecurity infrastructure, fostering public awareness through campaigns and education, and promoting online safety practices are essential for a secure digital ecosystem. International cooperation, capacity building programs, and awareness campaigns can be impactful.
5. **Peacebuilding Efforts:** Promoting stability and positive peace⁵² is crucial for creating a conducive environment for digital development. This requires sustained peace efforts, conflict resolution initiatives, and ensuring public safety.

⁵² <https://reliefweb.int/report/world/positive-peace-report-2022-analysing-factors-sustain-peace>

6. **Agile Regulatory Framework:** Regularly reviewing and updating regulations to adapt to new technologies, address emerging risks, and promote ethical practices is key to fostering responsible digital growth. This requires expertise, stakeholder engagement, and adaptability.
7. **Addressing the Gender Gap:** Tailored initiatives that empower women and girls through digital literacy training, access to affordable devices, and addressing safety concerns are crucial for bridging the digital gender divide.

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Appendices

Youth Population in Eastern Africa

| Country | Youth population (18-35 years) |
|-------------|--------------------------------------|
| Kenya | 16,280,000 (29.6%) |
| Somalia | 4,628,330 (25.9%) |
| Uganda | 14,325,090 (29.9%) |
| Tanzania | 17,889,000 (26.7%) |
| Rwanda | 4,056,540 (29.1%) |
| Burundi | 3,302,000 (25.4%) |
| Ethiopia | 38,610,000 (29.7%) |
| South Sudan | 2,651,000 (24.1%) |
| Sudan | 13,391,999 (27.9%) |
| DRC | 25,800,000 (25.8%) |