



# **MANAGING REVENUE ADMINISTRATION IN AN ERA OF DIGITAL ECONOMY: A LITERATURE REVIEW WITH REFERENCE TO SOUTH SUDAN REVENUE AUTHORITY**

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## **Abstract**

*The rise of the digital economy has transformed public revenue administration, presenting both opportunities and challenges for developing nations. This study examines how East African countries, including Kenya, Uganda, and Tanzania, have leveraged digital tax reforms—such as e-invoicing and electronic fiscal devices—to improve Value Added Tax (VAT) compliance and expand the tax base, with a focus on lessons for South Sudan. Using a review of international and regional literature on digital revenue administration and an evaluation of best practices, this paper assesses the progress and challenges faced in digital transformation. The findings indicate that phased digital reforms, investment in ICT infrastructure, and robust taxpayer education are critical for effective implementation. The study concludes that by adopting these strategies, South Sudan can improve revenue collection, enhance transparency, and lay the groundwork for sustainable economic development in the digital era.*

*Keywords: Digital Economy, Revenue Administration, VAT Compliance, South Sudan, East Africa*

## **INTRODUCTION**

The rapid rise of the digital economy—driven by innovations in e-commerce, mobile money, cloud computing, and digital platforms—has fundamentally transformed economic activity and the way value is created, exchanged, and recorded worldwide (OECD, 2022).

These shifts challenge traditional tax systems, as digital transactions increasingly occur across borders, often outside the reach of existing physical and jurisdictional boundaries (IMF, 2021; Bird & Zolt, 2023). As a consequence, revenue authorities worldwide are under pressure to modernize their approaches, ensuring that tax policy and administration keep pace with the evolving digital landscape.

Nowhere is this transformation more urgent than in sub-Saharan Africa, where digital financial services have leapfrogged traditional banking and are rapidly reshaping commerce, especially in East Africa. Governments in the region have responded by deploying digital tools—such as e-invoicing, electronic fiscal devices, and real-time reporting systems—to enhance tax compliance, improve efficiency, and broaden the revenue base (ATAF, 2023). These reforms aim to curb evasion, capture new sources of value creation, and strengthen domestic resource mobilization for sustainable development (AfDB, 2025).

South Sudan presents a unique case within this context. Historically dependent on oil revenues and burdened by conflict and economic instability, the country faces an urgent need to diversify its fiscal base. In recent years, South Sudan has begun to embrace digital revenue administration, laying the groundwork for more transparent, efficient, and resilient tax systems. By leveraging digital platforms and collaborating with regional partners, South Sudan is positioning itself to not only improve revenue collection but also foster economic diversification and long-term fiscal sustainability.

This paper reviews global and regional literature on digital revenue administration, assesses emerging best practices in East Africa, and considers how South Sudan can harness digital transformation to meet its fiscal and development goals.

## **DIGITAL REVENUE FRAMEWORKS: GLOBAL AND REGIONAL INSIGHTS**

### **Global Perspectives on Digital Revenue Frameworks**

The transformation of revenue administration in the digital economy is a central theme across international policy and academic literature. Scholars such as Ntouskas et al. (2022) and Bird & Zolt (2023) emphasize that successful digital revenue administration requires more than just the acquisition of new technology. It calls for a holistic approach that integrates advanced digital tools with strong stakeholder engagement—including taxpayers, government agencies, and technology providers—and the establishment of performance metrics to track progress and ensure accountability.

The OECD (2022) and IMF (2021) further highlight the necessity of comprehensive legislative reforms to keep pace with technological and economic changes. These organizations stress that legislation must clearly define digital taxable activities, outline requirements for digital

recordkeeping and reporting, and address emerging risks such as data privacy and cybersecurity. For example, the OECD's digital tax initiatives, such as the Inclusive Framework on Base Erosion and Profit Shifting (BEPS), encourage the adoption of consistent international standards for taxing the digital economy and preventing profit shifting by multinational digital giants.

Moreover, robust digital infrastructure is essential to support real-time tax data collection, processing, and analytics. This includes secure internet connectivity, interoperable databases, and reliable cloud storage, all of which enable automation and reduce administrative burdens. The IMF (2021) argues that digital transformation must be matched by significant investment in the upskilling of tax officials and the digital literacy of taxpayers, so that all parties can use new systems effectively.

A further key insight from global experience is the importance of cross-border tax cooperation. The digital economy inherently transcends national borders, and as such, unilateral digital tax regimes can lead to double taxation or double non-taxation if not carefully coordinated. International organizations are increasingly promoting information sharing, mutual assistance in tax enforcement, and the harmonization of digital tax rules.

### **Regional Insights: East African Experiences and Innovations**

East Africa has emerged as a continental leader in digital tax reform, with governments moving swiftly to address the unique challenges and opportunities presented by the digital economy. Legal reforms have been central to these efforts, as countries amend their tax laws to recognize digital transactions, mandate e-invoicing, and define the tax obligations of digital platforms and service providers (ATAF, 2023). For instance, Kenya's Finance Act and related regulations have formalized the requirement for digital service providers to register, collect, and remit tax, while Uganda has similarly updated its VAT Act to support the expansion of electronic fiscal devices (PwC Uganda, 2025).

Public-private partnerships have played a transformative role. In Kenya and Uganda, collaborations between revenue authorities, telecom operators, and fintech companies have enabled the integration of mobile payment systems and digital tax platforms. These partnerships not only expand the reach of digital tax systems into previously underserved rural and informal sectors but also foster innovation and reduce implementation costs through shared infrastructure and expertise.

Capacity building is another critical element of East Africa's digital revenue framework. The establishment of dedicated training institutions—such as the Kenya School of Revenue Administration (KESRA) and the Uganda Revenue Authority Training School—has ensured that

revenue officials are equipped with the necessary knowledge and skills to manage digital tax systems, analyze large datasets, and conduct risk-based audits. These institutions also provide outreach and technical support to taxpayers, helping them transition to new compliance requirements.

Performance measurement and feedback loops are built into these frameworks. East African revenue authorities regularly publish digitalization progress reports, compliance statistics, and user satisfaction surveys. These metrics help identify bottlenecks, inform policy adjustments, and promote transparency and trust among stakeholders. Finally, regional forums such as the African Tax Administration Forum (ATAF) and the East African Community (EAC) Tax Commissioners' meetings facilitate coordination on digital tax policy, technical standards, and capacity building. These platforms are vital in addressing cross-border e-commerce and ensuring that digital tax reforms are harmonized to support regional economic integration.

### **Synthesis and Relevance for South Sudan**

The collective experience drawn from both global and regional literature underscores that effective modern revenue administration is achieved where technology, robust legal frameworks, institutional capacity, and stakeholder collaboration are seamlessly integrated and reinforce one another. For South Sudan, these insights highlight several key priorities. First, it is essential to develop clear and forward-looking legislative frameworks that provide a solid foundation for digital taxation and ensure adaptability to future technological advancements. In parallel, sustained investment in digital infrastructure and comprehensive capacity building for both tax officials and taxpayers is crucial for the smooth rollout and ongoing success of digital systems.

Additionally, fostering public-private partnerships will be vital to driving innovation, accelerating implementation, and ensuring that solutions are tailored to the local context. Actively participating in regional and international forums will further enable South Sudan to harmonize its digital tax approaches, benefit from shared expertise, and enhance cross-border cooperation. By internalizing and systematically applying these principles, South Sudan can establish a digital revenue framework that is adaptive, inclusive, and well-equipped to support sustainable fiscal growth in the digital era.

### **TECHNOLOGICAL INNOVATIONS AND VAT COMPLIANCE**

Technological innovations are at the heart of recent progress in VAT compliance, fundamentally transforming how revenue authorities monitor, collect, and enforce tax obligations. The literature consistently highlights three core tools—**e-invoicing**, **electronic**

**fiscal devices (EFDs), and real-time reporting**—as essential components of modern VAT systems (OECD, 2022; Keen & Slemrod, 2021).

### **E-Invoicing: Global and Regional Impact**

E-invoicing refers to the digital generation, exchange, and storage of invoices in real time, enabling tax authorities to capture transaction data directly from businesses as sales occur. Internationally, countries such as Brazil and Italy have demonstrated that e-invoicing can significantly reduce VAT fraud, under-reporting, and invoice manipulation by closing gaps in the tax chain and providing authorities with granular, real-time transaction data (OECD, 2022). The automation of invoice processing also streamlines compliance for businesses, reducing administrative costs and errors.

In East Africa, **Uganda's Electronic Fiscal Receipting and Invoicing System (EFRIS)** exemplifies the transformative impact of e-invoicing. Launched in 2022, EFRIS requires all eligible taxpayers to issue electronic receipts and invoices for every sale. The system integrates with the Uganda Revenue Authority's central database, allowing immediate verification and auditability of each transaction. According to URA reports, this innovation increased VAT collections by nearly 50% within the first year of implementation, helping to clamp down on under-invoicing and tax evasion (Sunrise, 2024; PwC Uganda, 2025).

### **Electronic Fiscal Devices (EFDs): Bridging Compliance Gaps**

EFDs are tamper-proof devices used at points of sale to record sales transactions and automatically transmit the data to tax authorities. The adoption of EFDs addresses major VAT compliance challenges in cash-based and informal economies, where manual reporting is prone to manipulation or avoidance (Keen & Slemrod, 2021).

- **Tanzania** has been a regional pioneer in deploying EFDs across a wide range of sectors. The introduction of **Virtual Fiscal Devices (VFDs)**—software-based solutions that allow both B2B and B2C entities to generate fiscal receipts and transmit transaction data in real time—further enhanced compliance and reduced fraud (Edicom, 2024). By integrating VFDs with mobile payment platforms, Tanzania has also improved compliance among small retailers and service providers.
- **Rwanda** has similarly deployed EFDs linked to the Rwanda Revenue Authority's e-Tax platform, with a particular focus on retail and hospitality sectors. This integration enables the automated reconciliation of sales and VAT returns, reducing the administrative burden on businesses and increasing filing accuracy (ATAF, 2023).

## Real-Time Reporting and Data Analytics

The shift to real-time reporting is closely linked to e-invoicing and EFDs. By capturing transaction data as it happens, revenue authorities can build comprehensive digital ledgers, conduct automated cross-checks, and deploy advanced analytics to detect anomalies, patterns, and potential fraud (OECD, 2022; World Bank, 2022).

**Kenya's Tax Invoice Management System (TIMS)** is a prime example of this approach. TIMS mandates that all VAT-registered businesses issue electronic invoices which are automatically transmitted to the Kenya Revenue Authority (KRA) in real time. The system is integrated with KRA's iTax platform, supporting e-filing and providing robust audit trails for every VAT transaction. Since the implementation of TIMS, Kenya has experienced significant improvements in VAT performance, with growth rates increasing from 6.4% to 11.1% (AfDB, 2025). The system allows for immediate verification, reduces opportunities for non-compliance, and supports data-driven audit and enforcement.

## Regional Synergies and Lessons Learned

The widespread adoption of these technologies in East Africa is complemented by public-private partnerships with telecoms and fintech firms, which help expand access to digital tools for SMEs and informal businesses. These partnerships have been crucial in integrating tax platforms with popular mobile payment solutions, thereby lowering compliance barriers and fostering a culture of voluntary reporting (ATAF, 2023).

Capacity building and taxpayer education are equally important. Revenue authorities in Uganda, Kenya, and Rwanda have invested in extensive training for both tax officials and private sector users, ensuring that technological adoption translates into practical compliance gains. As a result, these countries have achieved not only higher VAT collection but also improved taxpayer satisfaction and trust in the tax system (PwC Uganda, 2025).

## Implications for South Sudan

For South Sudan, these regional experiences offer a clear roadmap: by investing in e-invoicing, adopting EFDs adapted to the local context (including mobile-based solutions), and building systems for real-time reporting and analytics, the country can make significant strides in VAT compliance. Lessons from the region also highlight the need for supportive legal frameworks, robust stakeholder engagement, and ongoing capacity building to ensure technology adoption is effective, inclusive, and sustainable.

## **SOUTH SUDAN'S DIGITAL TAX LANDSCAPE**

South Sudan, while a newcomer to digital public finance reform, has made remarkable progress in establishing the technological and institutional foundations for modern tax administration. These efforts are motivated by the urgent need to diversify government revenue beyond oil and to address persistent challenges in compliance, leakage, and efficiency.

### **e-Tax Portal (2021): Building the Digital Foundation**

Launched in July 2021, the e-Tax portal was South Sudan's first major step toward digitalizing tax administration (EY, 2021). The platform enables taxpayers to register online, obtain a Tax Identification Number (TIN), file various tax returns, and make payments electronically. This shift from manual, paper-based processes to digital self-service has improved transparency and efficiency, reduced opportunities for corruption, and made compliance more accessible—especially for businesses in urban centers. By streamlining procedures, the e-Tax portal aligns South Sudan with regional peers like Kenya and Rwanda, where digital tax portals have become the backbone of revenue collection (World Bank, 2022; ATAF, 2023).

### **Digital Tax System (DTS, 2025): Innovations to Combat Evasion**

In 2025, the South Sudan Revenue Authority (SSRA) introduced the Digital Tax System (DTS), a significant innovation designed to address smuggling, underreporting, and counterfeit goods (The Kenya Times, 2025). This system requires the affixing of unique digital stamps—secured by QR codes or serial numbers—on excisable and imported goods. The stamps are registered and tracked in a centralized database, allowing tax officials to verify the authenticity and tax status of goods across the supply chain. The DTS is also integrated with border management systems to monitor imports and exports, deterring tax evasion and boosting customs compliance. Such digital stamping systems have been highly effective in East African countries like Kenya and Uganda, contributing to increases in excise and VAT collections and providing valuable real-time data for enforcement (PwC Uganda, 2025).

### **Automation and Digitalization Progress**

The SSRA has set ambitious targets for the automation of tax operations. As of 2025, approximately 80% of major tax processes—including assessment, filing, payment, and certification—have been digitized (Eye Radio, 2025). Automation not only reduces administrative burdens and lags but also supports data-driven decision-making, enabling the SSRA to identify compliance risks, analyze trends, and allocate audit resources more efficiently.

The goal is to achieve 90% digitalization within the next two years, which would place South Sudan among the most digitally advanced revenue administrations in the region. This focus on automation is consistent with best practices outlined in international literature and aligns with the digital transformation journeys of countries like Rwanda and Uganda (OECD, 2022; World Bank, 2022).

### **Institutional Capacity: SSIRA and the NORMA II Project**

Recognizing that technology alone cannot deliver sustainable reform, South Sudan has invested in institutional capacity building through the establishment of the South Sudan Institute of Revenue Administration (SSIRA) under the NORMA II project (AfDB, 2025). SSIRA serves as the national center for training and professional development of revenue officials, offering courses in digital tax systems, data analytics, risk management, and taxpayer services. The Institute also partners with regional and international organizations for knowledge exchange, technical assistance, and curriculum development. This approach reflects lessons from East African counterparts, where dedicated tax training schools have been pivotal in supporting digital transformation and fostering a culture of innovation and integrity in revenue administration (ATAF, 2023; PwC Uganda, 2025).

### **Challenges and the Road Ahead**

Despite this progress, several challenges remain. Digital infrastructure outside major cities is limited, impeding access for rural taxpayers and small businesses. The informal sector, which dominates much of the economy, requires tailored strategies to facilitate digital onboarding and compliance. There is also a need for ongoing taxpayer education, public awareness campaigns, and robust cyber-security measures to sustain trust and system adoption. Nevertheless, with continued investment and regional collaboration, South Sudan is well-poised to close these gaps and realize the full benefits of digital revenue administration.

### **Regional Significance**

South Sudan's rapid digitalization has drawn the attention of regional partners and donors, positioning the country as an emerging case study for digital tax reform in fragile and post-conflict states. The experience highlights how political will, donor support, and a clear vision can accelerate digital transformation, even in challenging contexts.

## OPPORTUNITIES AND CHALLENGES FOR SOUTH SUDAN

South Sudan stands at a pivotal moment in its efforts to modernize revenue administration through digital transformation. The foundation laid by its recent reforms—and the broader East African experience—offers a combination of significant opportunities and complex challenges. Understanding these dimensions is critical for designing an effective and sustainable digital tax system.

### Opportunities

#### a) Leveraging an Emerging Digital Infrastructure

South Sudan's rollout of the e-Tax portal and Digital Tax System (DTS) has created a critical digital backbone for tax administration. This infrastructure supports a **phased introduction of advanced compliance tools** such as e-invoicing and electronic fiscal devices (EFDs). By starting with large, urban-based businesses and gradually expanding to smaller enterprises and rural traders, South Sudan can pilot, refine, and scale solutions in a manageable way—mirroring the approach of Uganda and Kenya (Nilotik Tech, 2024; PwC Uganda, 2025). Such a phased strategy helps identify and resolve operational bottlenecks and ensures that technology upgrades do not overwhelm users or administrators.

#### b) Institutional Capacity Building via SSIRA and Partnerships

The South Sudan Institute of Revenue Administration (SSIRA), developed under the NORMA II project, provides a dedicated avenue for training tax and customs officials in digital skills, risk management, and customer service. Its curriculum is modeled on successful East African training institutions and benefits from **regional partnerships** with Kenya, Uganda, and Rwanda (AfDB, 2025; ATAF, 2023). These relationships not only enable knowledge and technology transfer but also support harmonization in tax practices—important for managing cross-border commerce and e-services in the East African Community.

#### c) Donor Support and Access to Regional Innovation

South Sudan's digital tax reforms have attracted support from international donors and technical partners, including the African Development Bank. This backing is a **major opportunity for funding, technical assistance, and pilot projects**—for example, introducing mobile-based tax filing or digital stamps for excisable goods (AfDB, 2025). South Sudan's status as a relative newcomer also enables it to “leapfrog” legacy challenges by adopting best-in-class solutions already tested in neighboring countries and globally (World Bank, 2022).

## Challenges

### a) Limited Rural Connectivity and Financial Infrastructure

A persistent barrier is the limited penetration of internet, mobile networks, and banking services outside major urban centers. Many rural businesses lack access to digital devices and reliable power, making it difficult to participate in online tax systems or use EFDs (Eye Radio, 2025; OECD, 2022). This digital divide risks excluding a large segment of the economy, undermining the inclusivity—and ultimately, the effectiveness—of digital tax reforms.

### b) Dominance of the Informal Sector and Low Digital Literacy

South Sudan's economy is dominated by informal businesses that typically do not keep formal records or have experience with electronic platforms. For these traders, the transition to digital compliance is daunting. Low literacy rates, both general and digital, further compound the problem. Without tailored outreach, simplified procedures, and incentives to formalize, the risk is that these reforms will bypass the very actors whose participation is needed for a broad tax base (ATAF, 2023; PwC Uganda, 2025).

### c) Public Trust and Effective Enforcement

Years of conflict and administrative bottlenecks have eroded trust in public institutions. For digital tax reforms to succeed, users must perceive the new systems as transparent, fair, and secure. Visible, consistent enforcement of tax laws is also critical: if non-compliance goes unpunished, or if corruption is perceived in the process, both voluntary compliance and digital adoption will suffer. Safeguarding data privacy and ensuring that digital systems are not used for harassment or rent-seeking are additional priorities (AfDB, 2025; World Bank, 2022).

## Synthesis

The opportunities facing South Sudan are substantial: rapid adoption of proven technologies, strategic capacity building, and the ability to draw on regional and international support. However, success depends on addressing persistent challenges related to infrastructure, informality, digital literacy, and institutional trust. A flexible, phased approach—responsive to local realities and informed by best practices—will be essential to realize the full promise of digital revenue administration.

## LESSONS FROM LITERATURE

The existing literature on digital revenue administration offers a wealth of insights for policymakers and practitioners seeking to modernize tax systems in the age of the digital economy. These lessons are drawn from both developed and developing countries, with a growing body of evidence from Africa and, specifically, East Africa.

### International Lessons

#### a) Impact of Real-Time VAT Systems and Integrated Digital Platforms

International experience demonstrates that the adoption of real-time VAT systems—such as e-invoicing and electronic fiscal devices (EFDs)—is transformative for compliance and fraud reduction. For example, Brazil's Nota Fiscal Eletrônica and Italy's FatturaPA require that each invoice is issued and registered digitally at the point of sale, enabling tax authorities to access transaction data instantly (OECD, 2022). These systems not only deter under-reporting and invoice fraud but also facilitate risk-based audits, data analytics, and the automation of cross-checks between sales and VAT returns (Zhou, 2023).

Similarly, the European Union's move towards e-reporting under its VAT in the Digital Age (ViDA) initiative is designed to standardize and digitize VAT compliance, fostering both efficiency and transparency (OECD, 2022; World Bank, 2022). These efforts have resulted in measurable improvements in VAT collection, reduced compliance costs, and enhanced taxpayer experience. The World Bank (2022) further highlights that such digital platforms, when integrated with customs and payment systems, simplify processes for taxpayers and authorities alike.

#### b) Legal and Institutional Prerequisites

Key international studies emphasize that technological innovation alone is insufficient; success is contingent on robust legal frameworks and strong institutions (Bird & Zolt, 2023; IMF, 2021). Legislation must clearly define digital tax obligations, reporting standards, and data protection requirements. Countries that have paired digital reforms with legal clarity—including comprehensive guidance on digital signatures, electronic records, and taxpayer rights—have seen greater compliance and public trust.

Institutional frameworks must also support continuous capacity building, ensure professional standards among staff, and provide clear mechanisms for taxpayer outreach and dispute resolution. The IMF (2021) finds that countries with dedicated change management programs and transparent governance structures are best able to sustain digital transformation over time.

## **Regional Lessons from East Africa**

### **a) Success of Mobile Solutions and Digital Inclusion**

East Africa is widely recognized as a global leader in mobile technology adoption, particularly in payments and financial services. Revenue authorities have harnessed this ecosystem by integrating tax systems with mobile money platforms, making it easier for SMEs and informal businesses to register, file, and pay taxes remotely (ATAF, 2023). For instance, Kenya Revenue Authority's partnership with mobile operators has enabled remote filing and payment of VAT, dramatically expanding compliance beyond urban centers.

### **b) Role of Public-Private Partnerships**

Public-private partnerships have been instrumental in designing, deploying, and scaling digital tax solutions. Collaborations with fintech companies and technology vendors have facilitated the rollout of e-invoicing, EFDs, and digital stamping across various sectors. These partnerships also help reduce costs, offer technical support, and provide real-world feedback essential for system improvement (ATAF, 2023; PwC Uganda, 2025).

### **c) Continuous Taxpayer Education and Change Management**

A recurring theme in the literature is the critical importance of taxpayer education and stakeholder engagement. Uganda's URA and Kenya's KRA have run extensive outreach campaigns, hotlines, and training workshops to support the transition to digital systems (PwC Uganda, 2025). This ongoing education is especially crucial for onboarding SMEs and informal businesses, which may lack prior experience with formal compliance procedures. Successful programs are proactive, multilingual, and tailored to different segments of the taxpayer population.

### **d) The Importance of Legal Clarity and Institutional Strength**

East African experience underscores that legal reforms must keep pace with technology. Countries that have embedded digital compliance requirements and penalties in tax law—while simultaneously updating data privacy and cybersecurity provisions—report more effective enforcement and fewer disputes (ATAF, 2023). Strong institutions, such as dedicated tax training academies and IT support divisions, are also vital for sustaining and scaling digital reforms.

## **Synthesis for South Sudan**

For South Sudan, the key lessons drawn from international and regional experience highlight several critical factors for successful digital tax transformation. First, deploying technology in isolation is insufficient; it must be firmly anchored in comprehensive legal and

institutional reforms. Digital tax systems achieve lasting impact only when they are underpinned by explicit legal mandates and implemented by a well-trained, professional workforce. This ensures that technological solutions are not only effective but also enforceable and aligned with broader governance objectives.

Second, in a country like South Sudan, where fixed infrastructure remains limited, digital inclusion strategies must emphasize the development of mobile-based and user-friendly compliance channels. Simplified digital solutions—such as mobile tax applications and automated payment systems—are essential for reaching underserved populations, including those in rural and remote areas. By making compliance easier and more accessible, the government can significantly broaden the tax base and promote voluntary participation.

Third, the success of digital reforms is heavily dependent on continuous stakeholder engagement. Ongoing taxpayer education, transparent communication about system changes, and the provision of responsive support services are vital for building trust and ensuring widespread adoption. When taxpayers understand the benefits and processes of digital compliance, and when they feel supported through accessible customer service, they are more likely to embrace new systems and fulfill their obligations.

Lastly, forging strong public-private partnerships and fostering regional cooperation can accelerate progress and enhance the quality of digital reforms. By tapping into the expertise and technical capabilities of private sector partners, as well as harmonizing standards and sharing knowledge with neighboring countries, South Sudan can avoid common challenges and leverage collective experience. This collaborative approach will enable the country to implement best practices more efficiently and ensure the sustainability of its digital tax initiatives. By systematically applying these lessons, South Sudan stands to maximize the return on its digital investments, improve VAT compliance, and build a robust, inclusive, and resilient revenue system that meets the demands of the digital age.

## RECOMMENDATIONS FOR SOUTH SUDAN

Building on the findings from global, regional, and national literature, South Sudan can chart a strategic path for digital revenue administration. The recommendations below are designed to address both the country's unique challenges and capitalize on its emerging opportunities.

### Infrastructure: Accelerate Rural Connectivity and Develop Mobile-Friendly Tools

A foundational step is to **expand access to reliable internet, mobile networks, and digital devices**, especially in rural and underserved areas. Investment in national broadband

infrastructure—through public funding, donor support, and partnerships with telecom providers—will enable more businesses and individuals to participate in digital tax systems (OECD, 2022; World Bank, 2022). In parallel, South Sudan should **prioritize the development of mobile-friendly compliance tools**, such as SMS-based tax notifications, mobile apps for filing and payment, and user interfaces in local languages. These solutions can bridge the digital divide and ensure inclusivity, drawing on successful models from Kenya and Uganda (ATAF, 2023).

### **Digital VAT Tools: Phased Implementation of E-Invoicing and EFDs**

South Sudan should prioritize the adoption of e-invoicing and electronic fiscal devices (EFDs) as key components of its VAT compliance strategy. These digital tools can significantly enhance transparency, reduce opportunities for fraud, and streamline the tax reporting process. To maximize their impact and effectively manage limited resources, the rollout of e-invoicing and EFDs should follow a phased implementation plan. The initial phase should target large taxpayers and urban enterprises, as these entities generally possess the infrastructure and technical capacity to adapt quickly to new digital requirements. Mandating the use of e-invoicing platforms and certified EFDs among these groups will ensure a high volume of reliable data from the outset, helping tax authorities establish robust monitoring systems and gain early insights into the effectiveness of the new tools.

As the system stabilizes, implementation should gradually expand to include small and medium-sized enterprises (SMEs) as well as businesses operating in rural areas. Recognizing the challenges these groups may face—such as limited access to technology and varying levels of digital literacy—the government should introduce simplified, low-cost EFDs and mobile-compatible solutions that can operate offline and sync data when internet access becomes available. Pilot programs and ongoing stakeholder consultations will be critical during this phase, allowing authorities to identify operational issues, gather user feedback, and adjust strategies as needed. Additionally, targeted training programs and informational campaigns should be launched to support smaller and rural businesses in adopting the new tools, ensuring a smoother transition and broader compliance.

A crucial aspect of this strategy is the integration of e-invoicing and EFDs with South Sudan's Digital Tax System (DTS) and the e-Tax portal. Real-time data transmission will enable automatic cross-checking of invoices, facilitate the prompt detection of discrepancies, and greatly enhance audit capabilities. Furthermore, the availability of comprehensive digital transaction data will support evidence-based policymaking and allow for more efficient resource allocation within the tax administration. To ensure sustained success, the government should

continuously monitor system performance, solicit feedback from users, and maintain dedicated technical support channels. By adopting a phased and adaptive approach, South Sudan can build a more transparent, efficient, and inclusive VAT system that aligns with international best practices while addressing the unique needs and challenges of its local context.

### **Legal Framework: Enact and Enforce Digital Compliance Mandates**

A robust and adaptive legal framework is essential for the successful digital transformation of tax administration in South Sudan. To achieve this, the government should prioritize the enactment and enforcement of comprehensive digital compliance mandates. This begins with embedding explicit digital compliance requirements—such as mandatory e-invoicing, the issuance of digital receipts, and provisions for data security—within the new Tax Procedure Act. Clear legislative mandates will ensure that all taxpayers understand their obligations regarding digital record-keeping and reporting. Alongside these requirements, it is critical to establish well-defined penalties for non-compliance, as well as incentives to reward timely and accurate adherence to digital tax procedures. Such measures will not only encourage voluntary compliance but will also serve as a strong deterrent against tax evasion.

Furthermore, the legal framework should be designed to remain flexible and responsive to changes in technology and regional tax standards. This can be achieved by instituting regular reviews and updates to tax legislation, ensuring alignment with new technological advancements and regional agreements, as emphasized by Bird & Zolt (2023) and the IMF (2021). Maintaining legal clarity is vital for both effective enforcement and for building confidence within the private sector; when businesses clearly understand the rules and the consequences of non-compliance, disputes are minimized, and cooperation with tax authorities is enhanced. Ultimately, well-crafted and consistently enforced digital compliance mandates will provide the foundation for a transparent, modern, and efficient tax system in South Sudan.

### **Capacity Building: Expand SSIRA's Training and Public Outreach**

The South Sudan Institute of Revenue Administration (SSIRA) should play a central role in supporting the country's digital tax transformation by expanding its training programs and public outreach initiatives. To begin with, SSIRA must be empowered and resourced to deliver ongoing professional development for tax officials, ensuring they acquire up-to-date skills in digital systems, data analytics, and risk-based auditing. Continuous training will enable revenue officers to effectively implement and manage new technologies, make data-driven decisions, and respond proactively to compliance challenges in an evolving digital landscape.

In addition to internal capacity building, SSIRA should design comprehensive taxpayer education campaigns aimed at demystifying digital compliance requirements. These campaigns should focus on clearly explaining the benefits of digital systems, such as improved efficiency, reduced errors, and enhanced transparency. Materials and guidance should be provided in local languages and through accessible formats—such as community radio, illustrated guides, and mobile messaging—to reach taxpayers of all backgrounds, including those with limited literacy or digital experience. By making information approachable and relevant, SSIRA can foster greater understanding and voluntary compliance among the business community and the general public.

Furthermore, SSIRA should actively participate in regional knowledge exchanges and leverage online learning platforms to access and share best practices with revenue authorities across East Africa. Engaging with peers in the region will expose South Sudan's tax officials to innovative solutions, lessons learned, and emerging trends, thereby accelerating institutional learning and adaptation. By anchoring digital reforms in a strong capacity-building agenda that reaches both tax administrators and taxpayers, SSIRA can help ensure that new systems are technically sound, widely accepted, and sustainably implemented throughout South Sudan.

### **Public-Private Partnerships: Engage Financial and Tech Sector Stakeholders**

South Sudan should actively pursue strategic partnerships with banks, telecommunications operators, fintech firms, and technology vendors to accelerate its digital tax transformation. By co-developing and co-funding digital solutions such as mobile tax applications and automated payment systems, the government can leverage private sector expertise and resources to create user-friendly, scalable platforms tailored to the local context. These collaborations can significantly enhance the accessibility and efficiency of tax compliance processes, particularly for individuals and businesses that may lack direct access to traditional banking services.

Furthermore, by utilizing existing fintech platforms and mobile money networks, South Sudan can extend tax compliance and payment options to unbanked and rural populations who have historically been excluded from the formal financial system. Integrating tax services with popular digital wallets and mobile payment solutions will make it easier for citizens and small businesses in remote areas to fulfill their tax obligations without the need to travel long distances or navigate complex procedures.

In addition, fostering innovation hubs and launching pilot programs in partnership with private sector actors will create an environment conducive to experimentation and continuous improvement. These initiatives can be used to test new digital tools, gather user feedback, and

refine approaches before scaling up nationally. Such collaborative efforts, as recommended by institutions like the African Development Bank (AfDB, 2025) and the World Bank (2022), not only drive technological innovation but also build a more inclusive and resilient tax ecosystem. Ultimately, these multisectoral partnerships will play a pivotal role in ensuring the success and sustainability of South Sudan's digital tax reforms. Such partnerships will lower the cost of digital adoption, increase reach, and support ongoing system modernization.

### **Transparency and Trust: Harness Data Analytics and Public Reporting**

Trust in digital tax administration is fundamentally anchored in principles of transparency, accountability, and responsiveness. To cultivate and sustain this trust, the South Sudan Revenue Authority (SSRA) should actively leverage data analytics to monitor compliance trends, detect anomalies, and evaluate the effectiveness of ongoing reforms. By systematically analyzing transaction data and taxpayer behavior, the SSRA can identify emerging risks, address compliance gaps, and make informed decisions that enhance the integrity of the tax system.

In addition to robust analytical oversight, the SSRA should commit to regularly publishing clear and accessible reports detailing the performance of digital tax initiatives, the challenges encountered, and the improvements made over time. Transparent communication of both successes and setbacks not only holds the administration accountable but also reassures taxpayers that reforms are being implemented in a fair and evidence-based manner.

Moreover, establishing dedicated feedback channels and customer service mechanisms is essential for fostering a responsive tax environment. By providing taxpayers with accessible avenues to voice their concerns, ask questions, and offer suggestions, the SSRA can gather valuable input to guide further system enhancements. Timely and empathetic responses to taxpayer inquiries will strengthen public confidence and encourage voluntary compliance. These combined efforts, as advocated by organizations such as the OECD (2022) and ATAF (2023), will help create a trustworthy, user-oriented digital tax system that is responsive to the needs and expectations of South Sudan's citizens and businesses. Clear communication and evidence-based policymaking will foster taxpayer confidence and sustained voluntary compliance. By implementing these recommendations—anchored in both international best practice and the realities of the South Sudanese context—the country will be well-positioned to advance its digital revenue agenda. The careful alignment of infrastructure investment, legal reform, technical capacity, and stakeholder engagement is essential for building a resilient, inclusive, and trusted tax system in the digital era.

## CONCLUSION

The digital transformation of revenue administration is more than a technological upgrade—it is a strategic imperative for countries seeking resilient and inclusive economic growth in the 21st century. For South Sudan, this transformation holds the promise of breaking long-standing fiscal dependency on oil, expanding the tax base, and enabling sustainable development through effective domestic resource mobilization.

As this literature review has demonstrated, East African neighbors such as Kenya, Uganda, Tanzania, and Rwanda have achieved tangible gains in VAT compliance, transparency, and administrative efficiency by embracing e-invoicing, electronic fiscal devices, real-time reporting, and robust institutional reforms. Their experiences offer proven blueprints and adaptable lessons for South Sudan's own digital journey.

By leveraging its emerging digital infrastructure—anchored in the e-Tax portal and Digital Tax System—South Sudan is already laying the groundwork for modernization. The establishment of the South Sudan Institute of Revenue Administration (SSIRA) and collaborative partnerships with regional and international stakeholders further strengthen the country's readiness to adopt and scale best practices. However, the path forward will require unwavering commitment to overcoming persistent challenges, including limited rural connectivity, the predominance of informal businesses, low digital literacy, and the need to rebuild public trust in state institutions.

Success will depend on a phased, inclusive, and context-sensitive approach. Prioritizing rural connectivity, tailoring solutions for SMEs and informal traders, and embedding digital compliance in a strong legal framework are all essential steps. Equally vital is the continuous investment in human capital—training tax officials, educating taxpayers, and fostering a culture of compliance and innovation.

Ultimately, digital revenue transformation is not an end in itself, but a catalyst for broader public sector reform, improved service delivery, and enhanced social contract between citizens and the state. If South Sudan can sustain its reform momentum, align with regional and international standards, and cultivate a collaborative, transparent approach, it will not only strengthen its fiscal foundations but also set a new benchmark for digital innovation in fragile and developing settings.

South Sudan's emergence as a digital leader in revenue administration is within reach. By uniting technology, law, institutional strength, and the collective will of its people, the country can chart a course toward fiscal self-reliance, inclusive growth, and a prosperous digital future for all its citizens.

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## DISCLAIMER

The views and opinions expressed in this paper are solely those of the author, **Daniel Kon Ater, Ph.D.**, and do not necessarily reflect the official policy, position, or views of the South Sudan Revenue Authority (SSRA), the South Sudan Institute for Revenue Administration (SSIRA), or any other affiliated institutions or partners. Any errors or omissions are the author's own.

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