REPORT

NESG

LIVE WEBINAR

LEVERAGING ARTIFICIAL INTELLIGENCE FOR TRANSFORMATION:

The Impact of Artificial Intelligence on Nigeria's Tax Ecosystem.

Thursday, May 23, 2024

10am WAT (GMT+1)

Virtual (ZOOM)

Date: Thursday, 23rd May, 2024 **Time**: ***10:00 am*** **Duration**: 2 hours **Venue**: Virtual	**SESSION REPORT** **Session Title:** Leveraging Artificial Intelligence (AI) for Transformation: The Impact of Artificial Intelligence on Nigeria's Tax Ecosystem **Details of Discussants:** • **Prof Teju Somorin**, Member, Trade, Investment and Competitiveness Policy Commission (TICPC) Steering Committee • **Mr Adewale Ajayi**, Partner & Head of Tax, Regulatory & People Services, KPMG Nigeria, Thematic Lead, Fiscal Policy and Planning Thematic Group • **Ms Joy Waruguru Ndubai**, Digital Transformation Lead, African Tax Administration Forum • **Mr Stuart Tait**, Chief Technology Officer Tax, KPMG in the UK • **Mr Bunmi Akinyemiju**, Chief Executive Officer, Venture Garden Group and Facilitator, Digital Economy Policy Commission • **Prof Jonathan Aremu**, Facilitator, Trade, Investment and Competitiveness Policy Commission **Moderated by:** • **Ms Nana Abu**, Senior Manager, KPMG Nigeria, Member, Fiscal Policy and Planning Thematic Group
Context	Digitising fiscal services has become critical as African nations increasingly seek digital solutions to streamline tax administration and ensure more efficient revenue collection. Tax authorities need help with data quality, integration of multiple data sources, and the need for transparency and taxpayer engagement. These issues are also relevant in the African Continental Free Trade Area (AfCFTA), which aims to foster economic integration and cooperation.
Introductions **Ms Nana Abu, Senior Manager, KPMG Nigeria, Member, Fiscal Policy and Planning Thematic Group**	In her introduction, Ms Nana Abu noted that the session would focus on the rapid evolution of technology, particularly AI, and its impact on various sectors, including tax administration in Nigeria. She emphasised that the country faces challenges such as inefficiencies, revenue leakages, and compliance issues in its tax system. However, AI technologies like machine learning, natural language processing, robotics process automation, and advanced data analytics offer promising solutions to enhance efficiency and compliance and combat tax evasion. Hence, she stated that the webinar's discussion would explore how AI could transform Nigeria's tax system.

Welcome Address **Prof Teju Somorin, Member, Trade, Investment and Competitiveness Policy Commission (TICPC) Steering Committee**	In her welcome address, Professor Somorin welcomed the panellists and participants and expressed gratitude for the opportunity to give the address. She noted that AI promises to address the limitations of traditional tax methods, combat tax evasion, and improve tax revenue. Professor Somorin explained that AI-driven solutions offer significant opportunities to streamline tax administration, detect non-compliance, and mitigate tax evasion, as Nembe et al. (2024) noted. However, she stated some risks, such as data privacy concerns and skill gaps, and hoped the webinar would address them. She also noted that incorporating AI into Nigeria's tax system could help improve the low tax-to-GDP ratio and align Nigeria with global tax standards. Hence, she encouraged active participation in the webinar to understand better how AI can enhance the Nigerian tax system, leading to a more efficient, equitable, and transparent tax regime. In conclusion, Professor Somorin highlighted that Nigeria is gradually integrating AI into its tax system, as seen with the Finance Act 2021, which allows the Federal Inland Revenue Service to use third-party technology for tax automation. She also noted that she looked forward to a meaningful dialogue that would drive positive change in Nigeria's tax ecosystem, where intelligent machines handle tax filings seamlessly.
Presentation: Tax Authorities and Innovation **By Mr Adewale Ajayi, Partner & Head of Tax, Regulatory & People Services, KPMG Nigeria, Thematic Lead, Fiscal Policy and Planning Thematic Group**	In his presentation, Mr Adewale Ajayi highlighted that tax authorities worldwide face two main challenges in today's digital era: improving tax compliance and maximising revenue collection. He noted that traditional methods like tax audits and investigations could be more forward-looking and insufficient. Therefore, innovative technologies are essential for enhancing tax compliance and revenue collection. He also mentioned that innovation can expand the tax base through data analytics, manage the taxpayer lifecycle, and enhance revenue collection. He then highlighted some key technologies, including advanced data analytics for risk profiling and targeted audits; artificial intelligence (AI) and machine learning to automate routine tasks; electronic invoicing systems to reduce fraud; real-time data processing; and predictive analysis for revenue forecasting. While these technologies offer significant benefits, Mr Adewale stated they also present challenges such as data integration, IT infrastructure needs, cybersecurity,

	skill gaps, and taxpayer education. Hence, tax authorities must invest in these areas to maximise the benefits of technological advancements. He highlighted some case studies that show successful implementations and noted that their outcomes include enhanced tax compliance, increased revenue, improved operational efficiency, and greater transparency. • Lagos State Internal Revenue Service has significantly increased revenue through innovative solutions like automated consumption tax collection. • Nigeria's Federal Inland Revenue Service introduced TaxPro Max for online tax filing and payments. • Brazil and Italy have implemented successful electronic invoicing systems. • The Singapore Revenue Authority uses data analytics to detect anomalies and increase revenue collection. Therefore, Mr Adewale recommended that businesses invest in innovation to keep pace with tax authorities, as a future-ready tax function requires embracing innovation, fostering agility, promoting collaboration, and integrating the tax function into all business decisions. In conclusion, he emphasised that tax authorities and businesses must invest in innovative technologies to enhance efficiency, compliance, and revenue collection.
Panel Discussion on the Role of Data and Analytics in Taxation	The panel discussion on "The Role of Data and Analytics in Taxation" was moderated by **Ms Nana Abu.** The panellists were: • **Ms Joy Waruguru Ndubai**, Digital Transformation Lead, African Tax Administration Forum • **Mr Stuart Tait**, Chief Technology Officer Tax, KPMG in the UK • **Mr Bunmi Akinyemiju**, Chief Executive Officer, Venture Garden Group and Facilitator, Digital Economy Policy Commission **Question 1: Based on your experience and the African Tax Administration Forum, how do you think tax authorities can leverage innovative technologies to enhance tax collection efficiency and effectiveness?** **Ms. Joy Ndubai**, Digital Transformation Lead at the African Tax Administration Forum, underscored the significant potential of technology in enhancing the efficiency and capability of tax authorities. Drawing from her extensive experience

with over 40 member countries, she highlighted that technology, particularly artificial intelligence (AI), can streamline processes, improve tax compliance, and boost revenue collection. However, she stressed the importance of thorough preparation across various dimensions: technical, legal, human, and cultural.

Ms. Ndubai, however, warned against the risks of implementing technology without adequate preparation or accurate data through which these systems and algorithms are informed. Citing the example of the Dutch tax authority's flawed AI system as a cautionary tale, she stated that this algorithmic system was intended to detect fraud and inadvertently profiled and penalised low-income families and ethnic minorities, leading to significant fines and reputational damage to thousands of people.

She emphasised that technology adoption be driven by precise, identified needs rather than the allure of innovation for its own sake. Effective implementation requires a detailed strategy, including proper data management, quality assurance, and system integration. She also noted that Transparency and informed stakeholder engagement are crucial to ensuring the technology is used ethically and efficiently. Therefore, she highlighted the necessity of an enabling legal framework and taxpayer trust to avoid the pitfalls seen in the Dutch case.

Lastly, Ms Ndubai also pointed out that successful AI implementation requires a comprehensive understanding of data quality, security, and integration alongside a well-prepared, data-literate workforce. She cited examples from countries like Australia, South Africa, and Mauritius to illustrate the benefits of well-managed AI and business intelligence tools in tax administration. These examples demonstrate how technology can enhance tax compliance, operational efficiency, revenue collection, and transparency when implemented thoughtfully and strategically.

Question 2: How have data and analytics revolutionised tax practices, and what do you anticipate future developments within these practices?

Mr Stuart Tait stressed that data and analytics have significantly transformed taxation practices, benefiting tax practitioners and authorities. For tax advisors, the shift to a data-driven approach has eliminated the tedious task of manually processing client data, allowing them to focus on technical tax analysis from the start. This shift has also accelerated their career progression and made their roles more intellectually stimulating.

He also stated that practitioners now use advanced analytical tools to identify potential errors and unusual balances, enhancing the efficiency and accuracy of

their work. He also noted that the tax authorities now can manage, exchange, and interrogate data, which has revolutionised their operations. With initiatives like the Foreign Account Tax Compliance Act (FATCA) and the Automatic Exchange of Information (AEOI), authorities comprehensively view taxpayers' global financial activities, enabling more precise and targeted inquiries. These initiatives have shifted their focus from manual reconciliations to detailed, specific inquiries into discrepancies.

Lastly, he emphasised that the trend is toward reducing manual processing and form-filling, exemplified by Sweden's pre-calculated tax returns generated using AI. These advancements will provide more substantive and detailed technical analysis, benefiting the taxation ecosystem.

Question 3: How can individual taxpayers and businesses be more equipped and ready to respond in light of the targeted approach driven by the extensive data tax authorities now have access to?

Mr Bunmi Akinyemiju built on previous points, emphasising the need to view AI adoption in taxation from both the tax authority and taxpayer perspectives. He outlined Nigeria's readiness to leverage AI, considering challenges like digital literacy, device access, connectivity, and data availability, especially in the informal sector, which constitutes 80% of taxpayers. He stressed the importance of a data-driven culture within tax authorities and the digital transformation of large corporations, which contribute significantly to tax revenue.

While acknowledging numerous obstacles, Mr Bunmi highlighted the potential for Nigeria to leapfrog in AI adoption, provided that the tax regulator leads with proper policies, local data models, and investment in local entrepreneurs.

He concluded by advocating for automatic transaction capture and computation using AI, similar to practices in Sweden, to enhance tax efficiency and compliance.

Question 4: How and where can technology be leveraged to involve the informal sector in the compliance process?

Mr Bunmi Akinyemiju highlighted the potential in the informal sector, noting that African governments are often short-term focused, aiming to collect immediate tax revenues. He suggested simplifying the tax code for the informal sector to make it minimal, standard, and easy to compute, thereby expanding the tax net. He also stated that the government could set a flat, minimal tax rate for businesses within

a wide band by integrating existing databases (NIN, BVN, CSC) and applying AI. He noted that this approach would focus on getting everyone into the tax system and leveraging digital identity and fintech for ease of payment. The primary goal would be to build a comprehensive database and educate taxpayers, yielding significant long-term benefits, which could be operational within 90 days and would foster a culture of tax compliance in the informal sector.

Question 5: In your experience dealing with various tax administrations, how can tax authorities collaborate more with businesses and taxpayers to promote digital innovations?

Ms Ndubai emphasised that digital inclusion and technology adoption are collaborative efforts involving tax authorities and citizens. She stressed the importance of considering various forms of technology, including analogue phones. She advocated for a national digital strategy to make digitalisation more accessible and the need for tax authorities to engage with taxpayers to build trust and ensure technology adoption.

Ms Ndubai discussed how tax authorities across Africa cooperate to innovate, often borrowing and enhancing tools from each other. She then underscored the importance of collaboration with the private sector for consultation, support, and engagement while considering data privacy concerns.

Overall, she emphasised the multifaceted nature of innovation in tax administration and the importance of careful collaboration with the private sector.

Question 6: Could you share some context on what ethical considerations should be made when utilising data and analytics for taxation purposes, principally regarding privacy and transparency?

Mr Stuart Tait highlighted the potential benefits and ethical considerations of using AI in tax administration. He then noted that as tax codes grow more complex, AI could make tax legislation more understandable and specific, leading to more equitable policies and democratising access to tax information. This action could provide quicker and cheaper technical certainty, reducing reliance on courts and benefiting all taxpayers, not just the wealthy. However, Mr Tait emphasised that AI systems are imperfect and high-risk, necessitating careful evaluation before deployment. He then suggested determining whether AI is necessary or more straightforward and if transparent automation methods could suffice.

	He also stressed that If AI is needed, its benefits must justify the additional governance and control measures required. He noted that the critical factors for AI implementation include clearly defining the problem it is designed to solve, ensuring the training data is free of bias, and allowing users to review and challenge the AI's output. These measures aim to ensure transparency, reduce bias, and maintain trust in the system. Lastly, Mr Tait noted that addressing these aspects could have helped the Dutch tax authority avoid adverse outcomes by enabling taxpayers to challenge decisions earlier.
Comments/Questions and Answers	**In what ways can the size and presence of the informal sector in Nigeria prevent the implementation of innovative solutions in tax administration?** **Mr Akinyemiju** identified three main challenges in tax collection: digital illiteracy, connectivity issues, and more automation for diverse taxpayers. He suggested simplifying the tax system by stratifying taxpayers into categories with easy-to-comply tax amounts. Leveraging AI and machine learning, he proposed integrating various databases (such as BVN, NIN, and CSC) to classify taxpayers accurately. He also noted that compliance could be facilitated through automated deductions via banks or telecoms. By tying government benefits to tax compliance and making the process straightforward, he believed these challenges could be transformed into opportunities, ultimately expanding the tax net. **The Ministry of Finance, through various agencies and ministries, has introduced different taxes since assuming office last year. While that is commendable, the ministry focuses more on deepening the taxes rather than widening the tax brackets. What do you think are the advantages of the ministry's approach? And what are the downsides?** **Mr Ajayi** addressed the complexity of balancing tax increases with sustainable development, noting that merely raising taxes does not promote growth. Instead, reforms to close loopholes and encourage growth are essential. In Nigeria, low tax compliance presents challenges and opportunities. He also mentioned that the government has had to reconsider specific tax policies due to adverse reactions, such as the expatriate employee levy and the cybersecurity levy. With high inflation at 34%, he noted that a coordinated fiscal and monetary policy approach is crucial and simplifying the tax system to increase compliance, especially among those not currently in the tax net, is a priority. Also, he stressed that using advanced data analytics and digital invoicing can help monitor and detect tax evasion. Greater

engagement with taxpayers is needed to enhance understanding and acceptance of fiscal policies to improve Nigeria's economic well-being and revenue collection.

Can Nigeria integrate AI technology in managing data on tax administrations? And if yes, what steps can be taken to fulfil this?

Ms Ndubai emphasised that while it is theoretically possible for any tax authority to use AI, proper preparation is crucial. She highlighted the significant data quality and integration challenges requiring substantial infrastructure and time. Ms Ndubai pointed out that a tax authority's readiness to use advanced technology depends on its current technological capabilities and cited the Federal Inland Revenue Service (FIRS), which is still developing its integrated tax administration system and is still being prepared for AI.

She then stressed the importance of a legal framework, taxpayer understanding, and peer learning from other countries like South Africa, Mauritius, Kenya, and Zambia. These countries have made progress, but it took Kenya around 11 years to advance their data analytics and understanding. She concluded that technology alone cannot fix the tax system; understanding the taxpayer and the system, effectively responding, and using technology to support compliance are critical. She hoped the fundamentals would be suitable for AI adoption one day.

How do we check the guarding of the data fed into the system? Beyond the general tax compliance processes, is there a system for taxpayers to understand how taxes are utilised?

Mr Tait highlighted the impact of data quality on AI systems used in tax policy, distinguishing between traditional AI (machine learning models for decision support) and generative AI (creating new content). He noted that generative AI ensures source content is accurate, curated, and current, such as published legislation and tax authority guidance, enabling accurate technical responses. At the same time, Traditional AI models are more complex due to varied and potentially error-prone input data, often derived from manual processes. He emphasised the importance of a robust, transparent framework for data cleansing, bias measurement, and data quality measures, allowing taxpayer challenge where appropriate.

Regarding post-taxation transparency, Mr Tait highlighted the benefit of enhanced data access for taxpayers. He cited the UK's high-level summaries of tax spending provided to taxpayers. Still, Mr Tait acknowledged the challenge of meaningfully

sharing detailed underlying data. He also suggested that self-serve analytics tools, including generative AI for natural language queries, could significantly improve data accessibility, provided the data fed into these tools is well-curated.

Ms Ndubai elaborated further on the question about data gathering and quality checks for tax authorities. She emphasised the importance of appreciating the multiple data sources that tax authorities interact with, from the taxpayer register to information submitted voluntarily by taxpayers, such as tax returns and financial statements. Given the difficulty in verifying this data, additional sources are crucial for validation.

She highlighted the move towards automated systems like e-invoicing, which provides tax authorities with untampered data, reducing the need for traditional audits. This shift is part of a broader vision for seamless, frictionless tax administration and improving data quality through multiple validation sources. Automated pre-filled returns were also mentioned as a future advancement, simplifying processes for taxpayers and tax authorities, allowing the latter to focus on higher-risk areas and fraud detection.

She further noted challenges in implementing such systems, citing Kenya's experience with e-invoicing, which faced resistance from taxpayers. They stressed the importance of tax authorities preparing taxpayers for new processes and communicating the purpose and intended use of collected data to make compliance more accessible and transparent.

How can artificial intelligence be effectively applied to identify and mitigate tax evasion? How can such implementations foster a more equitable and just tax system for the country?

Mr Ajayi highlighted a critical issue faced by tax authorities: ensuring taxpayers pay the correct amount of taxes. He stressed that tax authorities often focus on revenue generation in many African countries, including Nigeria, without estimating the tax gap—the difference between potential and actual tax collection. He, however, noted that Artificial intelligence (AI) can address this by integrating various data sources, such as taxpayer returns, government agency data, bank data, and social media information, to create comprehensive taxpayer profiles and detect underreporting.

He also mentioned that AI can enable predictive analytics, allowing authorities to make informed decisions and adjust tax policies to combat evasion. However, this requires high-quality, integrated data. He also stressed that while advanced

	technology can significantly improve tax compliance, there are challenges, especially in Africa, such as inadequate infrastructure, skilled personnel, and funding. To address these challenges, he recommended that tax authorities engage with taxpayers to ensure understanding and compliance. He noted that Africa's journey towards utilising AI for tax compliance has begun. Although this will take time and investment, he stressed that the initial steps towards integrating essential technologies are underway.
Next Steps	1. Assess Data Quality and Integration: • Conduct an audit of current data sources and data quality. • Implement data cleansing processes to ensure accuracy and reliability. • Develop a strategy for integrating various data sources (e.g., taxpayer returns, government agency data, bank data, social media). 2. Implement Basic AI Technologies: • Start with foundational AI tools for data integration and anomaly detection. • Train staff on using these technologies to ensure smooth adoption and utilisation. 3. Develop a National Digital Tax Strategy: • Create a comprehensive plan outlining digital tools and AI use in tax administration. • Ensure the strategy includes measures for data transparency and taxpayer engagement. 4. Enhance Taxpayer Engagement and Education: • Launch campaigns to educate taxpayers about the new technologies being implemented and how they will benefit from them. • Provide clear information on collecting, using, and protecting data. 5. Build Technical Infrastructure: • Invest in the necessary IT infrastructure to support AI and big data analytics. • Ensure robust cybersecurity measures are in place to protect sensitive tax data. 6. Train and Upskill Personnel: • Provide training programs for tax authority staff on AI, data analytics, and digital tools. • Develop partnerships with educational institutions or tech companies for ongoing skill development. 7. Pilot AI Projects:

	• Initiate pilot projects to test AI applications in specific areas, such as VAT returns or predictive analytics for tax evasion. • Use pilot results to refine strategies and scale successful initiatives. 8. Monitor and Evaluate Progress: • Establish key performance indicators (KPIs) to track the effectiveness of AI and digital tools in improving tax compliance. • Regularly review and adjust strategies based on data and feedback. 9. Legislative and Policy Support: • Work with policymakers to ensure that the legal framework supports the use of AI in tax administration. • Advocate for policies that encourage transparency and accountability when using digital tools.
Closing Remarks **Prof Jonathan Aremu, Facilitator, Trade, Investment and Competitiveness Policy Commission**	Professor Aremu thanked the panellists and all webinar attendees in his closing remarks. He commended the topic's relevance, especially with the upcoming African Tax Emporium in Kenya and the African Continental Free Trade Area (AfCFTA). He noted the importance of addressing issues like transfer pricing and illicit financial flows, citing Thabo Mbeki (2015), who estimated that over $65 billion in annual illicit flows was entering the continent, with 70% linked to corporate entities. He praised the quality of the discussion and emphasised the need for harmonised fiscal and taxation policies across Africa to implement economic integration under the AfCFTA effectively. He concluded by thanking all participants for their contributions and wished them well.