

The promise and limitations of information technology for tax mobilisation

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As digital technologies continue gaining momentum in Africa and lower-income countries, more and more tax authorities are adopting them to improve their core functions and collect revenue more efficiently.

This paper reviews recent literature on using technology for tax administration. Technology has the potential to improve tax collection in three areas: identifying the tax base, monitoring compliance, and facilitating compliance. But even the most user-friendly technology will hardly function without basic infrastructure and a stable internet connection. The potential benefits of new technology are further hampered by resistance from taxpayers and collectors, an unsupportive regulatory environment and lack of strategy for adoption by institutions. We close by proposing reforms to ensure investments in new technology improve efficiency and revenue collection.

Potential of technology in taxation

Technology could transform three core functions of tax administrations:

- **Identifying the tax base.** Painting an accurate picture of tax compliance by businesses and individuals poses a considerable challenge for any authority. By using third-party information and improved online registration forms, technology can improve the capacity to identify the tax base through comprehensive databases of taxable subjects (people or properties), and their activities and assets. And by automatically capturing transactions through electronic fiscal devices (EFDs) or digital payments, technology can help to more transparently determine tax dues.
- **Monitoring compliance.** Modern data analytic tools can help tax authorities monitor and enforce compliance through automated cross-checks of self-reported tax liabilities against other data sources. Moreover, the analysis of such third-party data could support risk-based audits, potentially improving the transparency and efficiency of the auditing process.

- **Facilitating compliance.** Technology such as EFDs, e-filing and e-payment can improve taxpayer experience and reduce compliance cost by optimising communication with taxpayers, and by eliminating travel, queuing and error-prone manual input of data and information. Technology-enabled impersonal interactions between the revenue authority and the taxpayer would also better shield taxpayers from corrupt practices.

However, there are barriers to realising technology's full potential.

Technology limitations and how to address them

- Where hard infrastructure (electricity, stable internet) are missing, the technology chokes or crashes in peak periods, or functions only intermittently, frustrating users. In addition, small-scale, rural and less educated taxpayers are less connected to the internet and are the most adversely effected by missing infrastructure. Tax authorities could use less sophisticated technologies to reach rural payers, such as offline declaration and payment solution using non-smart phones.
- Taxpayers and tax officials may resist the introduction of new technology for varied reasons: lack of awareness and training, high adoption costs or loss of opportunity for corruption and avoidance. On the one hand, more sophisticated taxpayers could exploit loopholes in the technology to avoid taxes. On the other, less IT-savvy taxpayers may mistrust the new solutions. Different approaches should be followed for such taxpayers, with increased enforcement and vigilance on the former and trust-building for the latter. At the same time, tax officials may prefer using manual practices due to entrenched habits and fixed mind-sets, rent-seeking and lack of awareness. This can be tackled through an adequate change management strategy, as well as targeted training and assistance.

- The effectiveness of new technologies can be significantly hampered where there is no strong buy-in from key leaders, and no long-term strategy at national level. The sequence by which technologies are adopted is also crucial since many functions are inter-dependent for smooth running. For instance, a new integrated and automated tax administration system is unlikely to succeed if the pre-existing data are not first properly cleaned. Therefore, new technology should be rolled out in sequential steps. Likewise, retraining and retooling of tax officials should precede introducing the technology – and be continuous.
- Data sharing between revenue authorities and public and private actors does not happen systematically, often due to privacy and confidentiality concerns. Policymakers could set up a central automated platform which would be accessible from multiple government institutions and banks to identify taxpayers and crosscheck information. Lastly, as technology

evolves, regulatory framework should be updated for cybersecurity to preserve privacy and confidentiality, and to protect citizens from data leakages.

Policy and research agenda

As technology develops at a faster and faster pace and its role grows in tax administration, the availability of administrative tax data will only increase. Tax authorities should make the most of this by collaborating with researchers to evaluate the impact of technology interventions, to guide their expansion or modification, and to understand their efficiency and equity implications. Such collaboration could also be beneficial to upgrade the capacity of staff in tax administrations to use data analytic tools.

“Even the most user-friendly technology will hardly function without basic infrastructure and a stable internet connection.”

Further reading

Okunogbe, O. and Santoro, F. (2022) ‘The Promise and Limitations of Information Technology for Tax Mobilisation’, ICTD Working Paper 135, Brighton: Institute of Development Studies

Okunogbe, O. and Pouliquen, V. (2022) ‘Technology, Taxation, and Corruption: Evidence from the Introduction of Electronic Tax Filing’, *American Economic Journal: Economic Policy*

Arewa, M. and Santoro, F. (2022) An Introduction to Digital Tax Payment Systems in Low-and Middle-Income Countries, ICTD Working Paper 152, Brighton: Institute of Development Studies

Santoro, F., Amine, R. and Magongo, T. (2022), Mandating E-filing and E-payment and Tax Compliance: Evidence from Eswatini, ICTD Working Paper 140, Brighton: Institute of Development Studies

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Credits

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