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## SPECIAL SECTION

# ASSESSING NEW TESTING GROUNDS FOR ONLINE MONEY SAFETY IN UGANDA

### **Abstract**

This research critically examines Uganda's regulatory sandboxes in mobile money services, comparing them with frameworks in Kenya and the United Kingdom (UK). Regulatory sandboxes play a crucial role in fostering innovation while managing digital financial risks, particularly those posed by foreign information and communication technology (ICT) service providers. However, previous studies have not adequately addressed the alignment of Uganda's sandboxes with international standards and the specific risks associated with foreign operators. This research aims to determine how Uganda's regulatory sandboxes align with global practices, assess digital financial risks, and suggest risk mitigation strategies. Using a qualitative approach that includes comparative analysis, the research explores coordination between national and regional legal frameworks. The findings reveal that Uganda's regulatory sandbox framework is less developed in cross-border testing and lacks comprehensive consumer protection measures seen in Kenya and the UK. The research highlights the need for improved regulatory coordination and integration of best practices to improve the resilience of Uganda's financial sector. This research provides valuable information on the refinement of Uganda's regulatory framework, highlighting the importance of harmonised regulations that support innovation and ensure data security, thus improving consumer confidence and service continuity in the digital financial landscape.

**JEL CLASSIFICATION:** G28, E42, O33

### **SUMMARY**

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## 1 Introduction

The growing attention to regulatory sandboxes in digital financial services (DFS) is driven by the increasing complexity and innovation in financial technologies, particularly in countries such as Uganda, Kenya and the United Kingdom. The rapid adoption of mobile money services, driven by technological advances and the entry of foreign economic operators, has required robust regulatory frameworks to manage associated risks and protect consumers. Regulatory sandboxes provide a controlled environment for fin-tech companies to test new products under regulatory supervision, offering a crucial mechanism to address challenges such as data security and service continuity risks posed by foreign ICT service providers. This research is essential as it explores how these frameworks operate in Uganda compared to Kenya and the UK, identifying gaps and opportunities for regulatory improvement.

This research conducts a comparative analysis of Uganda's regulatory sandboxes in mobile money services, examining their alignment, challenges and risk mitigation strategies compared to the frameworks in Kenya and the United Kingdom. The paper discusses how Uganda's regulatory sandboxes align with international best practices, explores the coordination between national and regional legal frameworks, and critically evaluates digital financial risks in Uganda, particularly those linked to foreign ICT service providers. It also assesses the implications of these risks for service continuity and data security and suggests risk mitigation strategies based on successful practices from other jurisdictions.

The significance of this research lies in the valuable information it provides on how regulatory sandboxes can address unique challenges within Uganda's DFS landscape, especially in terms of the integration of foreign economic operators and ICT service providers. By highlighting best practices from Kenya and the UK, the research contributes to a more robust, coordinated, and adaptive regulatory framework in Uganda that supports innovation while protecting consumer rights. These insights are crucial for forming policy reforms that can refine the regulatory approach of Uganda, ultimately improving the resilience and inclusion of the financial sector. Key terminologies used in this research include 'regulation sandboxes,' 'digital financial services,' and 'Consumer safety.'

The paper is structured into several sections. The first section provides an overview of regulatory sandboxes and their evolution in different jurisdictions. The second section examines the comparative analysis of regulatory sandboxes in Uganda, Kenya, and the United Kingdom, focussing on their structure, challenges, and alignment with best practices. The third section delves into the specific digital financial risks in Uganda,



particularly those associated with foreign ICT service providers. The final section proposes risk mitigation strategies based on successful practices from other jurisdictions, offering recommendations to improve Uganda's regulatory framework. This structured approach allows a comprehensive assessment of Uganda's regulatory landscape and the identification of actionable insights for policy improvements.

## 1.1 Background of the research

Uganda's financial sector has undergone significant transformation due to the rise of digital financial services (DFS), which are now essential for the country's efforts to grow economic and financial inclusion. Mobile money services such as MTN Mobile Money and Airtel Money<sup>1</sup> have been at the forefront, enabling unprecedented access to banking and payment services, especially among the unbanked and under-banked populations. MTN Mobile Money, launched in 2009, has grown to more than 15 million active users by 2023, making it the leading mobile money provider in Uganda. Similarly, Airtel Money, introduced shortly thereafter, serves over 10 million users, illustrating the sector's rapid expansion.<sup>2</sup>

However, the extensive adoption of DFS technologies requires a robust regulatory framework to manage associated risks. A key concern is 'risk-washing', a scenario where fintech risks are minimised under the guise of innovation, potentially compromising financial stability and consumer protection.<sup>3</sup> Regulatory sandboxes-controlled environments established to allow fintech companies to test innovative products under regulatory supervision offer a crucial mechanism to address these challenges.<sup>4</sup> Regulatory sandboxes also reduce regulatory barriers, offering startups a platform to test products with fewer constraints and ongoing regulatory guidance, promoting responsible innovation and financial inclusion in Uganda.<sup>5</sup>

The objectives of the research are to evaluate how Uganda's regulatory sandboxes align with international best practices, explore the challenges of coordinating national and regional legal frameworks, particularly with regard to digital financial risks associated with foreign ICT service providers, and evaluate the effectiveness of Uganda's risk mitigation strategies drawing insights from successful practices in other jurisdictions. These objectives align with the mandates outlined in the 2021 National Payment Systems Regulatory Sandbox Framework, which emphasises the promotion of innovative business models that improve financial inclusion, improve service quality, and establish robust consumer protection safeguards.<sup>6</sup>

<sup>1</sup> MTN Mobile Money <<https://www.mtn.co.ug>> accessed 15 April 2024.

<sup>2</sup> Airtel Money <<https://www.airtel.ug>> accessed 15 April 2024.

<sup>3</sup> Eric Brown and Dóra Piroška, 'Governing Fintech and Fintech as Governance: The Regulatory Sandbox, Riskwashing, and Disruptive Social Classification' (2021) 27(1) *New Political Economy* 19-32.

<sup>4</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 3(2).

<sup>5</sup> The National Payment Systems (Agents) Regulations 2021 No. 19, Regulation 6.

<sup>6</sup> Bank of Uganda, *The National Payment Systems Regulatory Sandbox Framework 2021 in Uganda* (2021).

The introduction of regulatory sandboxes has become a key regulatory innovation, allowing financial institutions and fintech startups to test new technologies in a controlled environment that balances innovation with consumer protection.<sup>7</sup> The importance of regulatory sandboxes extends beyond merely fostering innovation; they serve as a bridge between technology and regulation, enabling the regulatory environment to adapt to the evolving landscape of digital financial services.<sup>8</sup> In Uganda, regulatory sandboxes play a critical role in promoting financial inclusion, enhancing consumer protection, and supporting market stability by mitigating risks associated with unregulated innovations.<sup>9</sup>

This research uses a qualitative research design grounded in a review of the legal literature and desktop research methods. The comparative analysis focuses on Uganda's regulatory sandboxes in mobile money services, evaluating their alignment, challenges, and risk mitigation strategies with respect to Kenya and the United Kingdom. This approach enables an analysis of the potential hazards in digital finance in Uganda, specifically those related to foreign ICT service providers. The research design is anchored in doctrinal analysis, which systematically examines legal rules, principles, and precedents to identify how Uganda's sandbox regulations compare with international frameworks.<sup>10</sup>

Data collection involved a review of secondary sources, including academic articles, regulatory guidelines, legal statutes related to regulatory sandboxes. The sources were selected based on their relevance, credibility, and focus on digital financial services and regulatory environments. The collected literature was systematically analysed to identify patterns, key themes, and regulatory divergences across the jurisdictions studied.<sup>11</sup> This method enabled the identification of the effectiveness of Uganda's regulatory sandboxes in mitigating risks associated with foreign economic operators.

The analysis techniques included content and thematic analysis of qualitative literature collected from legal and regulatory documents. This facilitated a detailed examination of cross-jurisdictional insights, allowing research to highlight best practices and identify regulatory gaps that could be addressed by adapting successful strategies from other jurisdictions. The comparative analysis provided a structured approach to evaluating risk mitigation strategies within Uganda's sandboxes and aligning them with global standards.<sup>12</sup>

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<sup>7</sup> Baker McKenzie, 'A Guide to Regulatory FinTech Sandboxes Internationally' (May 2020) <[https://www.bakermckenzie.com/-/media/files/insight/publications/2020/05/a\\_guide\\_to\\_regulatory\\_fintech\\_sandboxes\\_internationally\\_8734.pdf?la=en](https://www.bakermckenzie.com/-/media/files/insight/publications/2020/05/a_guide_to_regulatory_fintech_sandboxes_internationally_8734.pdf?la=en)> accessed 30 May 2024.

<sup>8</sup> *ibid.*

<sup>9</sup> Regulation 18 (n 5).

<sup>10</sup> Hilary J Allen, 'Regulatory Sandboxes' (2019) 87(3) *Geo Wash L Rev* <<https://ssrn.com/abstract=3056993>> or <<http://dx.doi.org/10.2139/ssrn.3056993>> accessed 30 April 2024.

<sup>11</sup> Baker McKenzie (n 7).

<sup>12</sup> AllahRakha Naeem, 'Regulatory Sandboxes: A Game-Changer for Nurturing Digital Start-Ups and Fostering Innovation' (2023) 3(8) *Евразийский журнал права, финансов и прикладных наук* 120, 128.



## 2 Overview of regulatory sandboxes

The terminology used in this research is essential to understand the context and scope of the research. 'Sandbox' refers to a provisional trial of innovative financial products, services, business models, or delivery methods within the payment systems ecosystem.<sup>13</sup> "Regulatory sandboxes" refer to controlled environments where financial service providers can test new products and services under regulatory supervision. "Consumer safety" refers to the measures and mechanisms in place to protect consumers from financial fraud, data breaches, and other risks associated with digital financial services. "Digital financial services" encompass a range of financial activities conducted through digital platforms, including mobile money transfer, online banking, and digital lending.<sup>14</sup>

Regulatory sandboxes are regulatory frameworks that allow fintech companies to test new products, services, and business models within a controlled environment under regulatory supervision. These sandboxes provide a 'safe space' for financial innovation while maintaining oversight to protect consumers and ensure compliance with regulatory standards. The concept was first introduced by the UK as part of its Project Innovate initiative, designed to support fintech companies in navigating the UK's complex regulatory landscape and gain market entry under regulatory guidance.<sup>15</sup> This approach has since become a benchmark globally, promoting technological advancement while safeguarding consumer interests and promoting financial inclusion.<sup>16</sup>

The evolution of regulatory sandboxes reflects a significant shift towards accommodating financial innovation while managing associated risks. The UK's Financial Conduct Authority (FCA) was the first to introduce this model in 2015, setting a precedent for other countries, including Kenya and Uganda, to adopt similar frameworks tailored to their regulatory priorities.<sup>17</sup> The sandbox has facilitated the testing of innovative financial products and services, allowing regulators to monitor real-time impacts and adjust regulations as necessary.<sup>18</sup> Sandboxes in Kenya emphasise stringent data protection protocols and licencing requirements, consolidating various regulatory guidelines under the Central Bank's supervision, while Uganda's sandbox still faces challenges in cross-border testing capabilities.<sup>19</sup>

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<sup>13</sup> National Payment Systems Act (2020), Cap. 59, Section 1.

<sup>14</sup> United Nations Capital Development Fund, 'Digital Credit in Uganda: Where Are We, Where Do We Want to Go?' (UNCDF, 13 April 2021) <<https://www.uncdf.org/article/8341/digital-credit-in-uganda-where-are-we-where-do-we-want-to-go>> accessed 28 April 2024.

<sup>15</sup> Financial Conduct Authority, 'Annual Report 2015/16' (2015) <<https://www.fca.org.uk/publication/corporate/annual-report-2015-16.pdf>> accessed 19 August 2024.

<sup>16</sup> Allen (n 10) 580.

<sup>17</sup> Financial Conduct Authority (FCA) Regulations (United Kingdom); Financial Services Act (2012), (c 21), (United Kingdom).

<sup>18</sup> Ramona Rupeika-Apoga and Eleftherios I Thalassinou, 'Ideas for a Regulatory Definition of FinTech' (2020) VIII(2) International Journal of Economics and Business Administration 136, 154.

<sup>19</sup> Jackson Macharia Githu, *Legal & Regulatory Framework for Digital Financial Services in Kenya - A Case for Urgent Reforms* (KBA Centre for Research on Financial Markets and Policy Working Paper Series, Kenya Bankers Association, May 2023).

## Types of Testing Grounds

### Sandbox Environments

Sandbox environments are structured frameworks established by financial regulators, such as the central bank, to allow businesses to test innovative financial products or services in a controlled setting without obtaining a full licence, which is crucial to managing the balance between enabling innovation and ensuring consumer protection.<sup>20</sup>

Commonly referred to as regulatory "sandboxes," these programmes represent an attempt by authorities to build supervisory capacity through participation and state-sponsored innovation and experimentation. In some instances, sandboxes may be offered as part of a larger regulatory "Innovation Hub" designed to offer firms assistance with navigating compliance burdens and testing their ideas against specific real-world problems. The sandbox arguably provides a genuinely new addition to the regulatory arsenal, different from past practices on which policymakers have relied to accommodate financial innovation.<sup>21</sup>

The regulatory sandboxes in the UK similarly provide a "safe space" for experimentation. As noted by Christopher, they are designed to promote competitive innovation, market competition, and efficiency, particularly in fintech sectors.<sup>22</sup> The sandbox regime operates under specific criteria and minimum requirements, ensuring that all activities are closely monitored by the regulatory authorities. These environments typically require detailed applications that outline the scope of testing, which must be accessible and transparent to the regulator.

### Beta Testing

Beta testing in the financial sector involves releasing a new product or service to a limited audience outside of the company but within the controlled environment of the sandbox, which is critical for gathering user feedback on the functionality of the product in real-world scenarios without the full regulatory burden.<sup>23</sup> Similar beta testing phases are integral to the regulatory sandboxes in the UK, and beta testing helps identify any potential issues or improvements, ensuring that the product meets both customer expectations and regulatory standards before wider release.<sup>24</sup>

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<sup>20</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 1.

<sup>21</sup> Chris Brummer and Yesha Yadav, 'Fintech and the Innovation Trilemma' (2019) 107 *Georgetown Law Journal* 235 <<https://ssrn.com/abstract=3054770> accessed 30 April 2024> accessed 29 April 2024.

<sup>22</sup> Christopher Chao-hung Chen, 'Regulatory Sandboxes in the UK and Singapore: A Preliminary Survey' in Mark Fenwick, Steven Van Uytsel, and Bi Ying (eds), *Regulating FinTech in Asia: Global Context, Local Perspectives* (Forthcoming, August 2020) <<https://ssrn.com/abstract=3448901>> or <<http://dx.doi.org/10.2139/ssrn.3448901>> accessed 29 April 2024.

<sup>23</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 5(1)(d).

<sup>24</sup> Chen (n 22).



## Pilot Programmes

Pilot programmes are a more extensive form of testing financial products or services, in which the product is introduced to a broader audience under real-world operating conditions, which is essential to observe the performance of the product and its interaction with other elements of the financial ecosystem.<sup>25</sup> Pilot programmes help to assess the overall impact and suitability of the product for larger-scale implementation. They are a critical step in confirming that the financial product not only adheres to regulatory standards but also fulfils its intended role in enhancing consumer safety and contributing to financial inclusion.

Together, these testing grounds play an essential role in fostering innovation within the regulatory framework, ensuring that new financial technologies can be safely integrated into Uganda's financial landscape, enhancing consumer protection, and promoting financial inclusion. The impact on consumer safety is an important objective of sandboxes globally.<sup>26</sup> Initiatives in Kenya, for example, have shown how sandbox environments can significantly enhance the safety and reliability of financial products before they are introduced to the wider market.<sup>27</sup>

### 2.1 Comparative analysis of regulatory sandboxes in Uganda, Kenya, and the UK

The landscape of regulatory sandboxes varies significantly across jurisdictions, with each model offering unique approaches to balancing innovation and regulatory oversight. In Kenya, the success of M-Pesa exemplifies how innovation can outpace regulatory frameworks. The necessity for dialogue between regulators and stakeholders in the FinTech ecosystem is critical, as demonstrated by Kenya's M-Pesa, highlighting how regulatory frameworks can often lag behind technological advancements and stifle innovation.<sup>28</sup> This underscores the importance of a proactive regulatory approach that accommodates the rapid evolution of mobile money services.

In contrast, the UK's regulatory sandbox model allows for the testing of innovative financial products in a controlled environment, offering a more agile response compared to the slower regulatory responses observed in Kenya.<sup>29</sup> This model emphasises collaborative interactions between innovators and regulators, enabling a dynamic approach to compliance and innovation that could enhance the competitive landscape for

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<sup>25</sup> Seunghwan Kim and others, *Digital Money, Cross-Border Payments, International Reserves, and the Global Financial Safety Net: Preliminary Considerations* (IMF, 4 January 2024) eISBN 9798400253478.

<sup>26</sup> Baker McKenzie (n 7).

<sup>27</sup> World Bank, 'Global Experiences from Regulatory Sandboxes' (11 November 2020) <<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/912001605241080935/global-experiences-from-regulatory-sandboxes>> accessed 28 April 2024.

<sup>28</sup> Anton Didenko, 'Regulating FinTech: Lessons from Africa' (2018) 19 San Diego Int'l L J 311.

<sup>29</sup> Johann Jacques Crouse, 'Fintech and the Financial Services Industry in South Africa' (Masters thesis, Nelson Mandela University 2019).

mobile money services in Uganda. The UK approach serves as a benchmark, highlighting the potential benefits of a more flexible regulatory framework.

The landscape of online money services in Uganda has seen significant expansion, driven by the widespread adoption of mobile money platforms and electronic banking services. This growth is supported by a robust legal framework, including the Contract law, which outlines the essential elements of lawful agreements and ensures the enforceability of digital financial contracts.<sup>30</sup> This growth is largely attributed to the increased accessibility of mobile devices and the Internet, which have transformed the traditional banking scene into a more dynamic and user-friendly environment. This growth is corroborated by findings which highlight that 86% of micro-entrepreneurs own a mobile money account, yet only 49% are active users, indicating unmet opportunities in the sector.<sup>31</sup>

Agents operating under the regulations are required to maintain proper records of all transactions, ensuring transparency and accountability.<sup>32</sup> However, according to the UNCDF report, while digital financial services (DFS) have enabled more Ugandans to access formal financial services, the gains are still restricted to basic account services and payments. For instance, 66% of Ugandan adults are estimated to have access to an account, yet formal saving and borrowing remain low at 32% and 29%, respectively.<sup>33</sup> This pattern of growth is also evident in the UK, where regulatory sandboxes have facilitated the adoption of innovative financial technologies.<sup>34</sup> As a result, a substantial portion of Uganda's population now enjoys the convenience of digital transactions, ranging from simple money transfers to complex financial operations.

Uganda's regulatory sandbox is closely aligned with international best practices, offering a testing ground for mobile money services to promote innovation while protecting consumer interests. However, differences arise due to unique market conditions and external influences, particularly in managing risks posed by foreign ICT service providers and economic operators.<sup>35</sup> While Kenya's model integrates comprehensive consumer protection measures and consolidated regulatory oversight, Uganda's framework remains less developed, lacking specific operational guidelines on cross-border testing.<sup>36</sup> Comparatively, the UK's sandbox fosters a collaborative environment between regulators and innovators, allowing for incremental exposure to regulatory requirements, thereby enhancing compliance and innovation.<sup>37</sup>

Previous studies highlight that digital financial services pose significant risks, including data breaches, fraud, and compliance challenges, particularly with regard to foreign ICT

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<sup>30</sup> Contracts Act (1963), Cap. 284 (Uganda), Section 10.

<sup>31</sup> Jana S Hamdan, Katharina Lehmann-Uchner and Lukas Menkhoff, 'Mobile Money, Financial Inclusion, and Unmet Opportunities: Evidence from Uganda' (2022) 58(4) *The Journal of Development Studies* 671.

<sup>32</sup> Regulation 12 (n 5).

<sup>33</sup> United Nations Capital Development Fund (n 14).

<sup>34</sup> Chen (n 22).

<sup>35</sup> Bank of Uganda (n 6).

<sup>36</sup> Allen (n 10).

<sup>37</sup> Rupeika-Apoga and Thalassinou (n 18).





service providers. These risks are prevalent in markets with evolving regulatory frameworks like Uganda, where legal and regulatory oversight often lags behind technological progress.<sup>38</sup> The law in Uganda mandates reporting of suspicious transactions, addressing threats like money laundering and ensuring service continuity and data security.<sup>39</sup> These studies underscore the importance of sandboxes in mitigating these risks, facilitating a balanced approach to innovation and regulation through controlled testing environments.<sup>40</sup>

By examining the successful practices of the UK and Kenya, this research aims to propose tailored risk mitigation strategies to enhance Uganda's regulatory framework, improve data security, and ensure the continuity of digital financial services.

### 3 Structure and Function of Uganda's Regulatory Sandbox and Online Money Services

Uganda's regulatory sandbox, provides a critical mechanism for promoting innovation within the digital financial services sector.<sup>41</sup> This sandbox offers a controlled environment in which fintech companies and other digital financial service providers can test new products, services, and business models under regulatory supervision before they are introduced to the market. The primary objectives of the sandbox include increasing the potential for innovative business models that advance financial inclusion, improving competition and service quality, and implementing consumer protection safeguards.<sup>42</sup>

Uganda's sandbox framework is designed to meet the specific market needs of the country, allowing fintech companies to operate temporarily with reduced regulatory restrictions. This approach encourages technological innovation while maintaining market integrity through stringent oversight measures. Regulatory authorities enforce data protection standards, requiring all participants to implement secure data handling procedures, which safeguard consumer information and ensure compliance with existing financial regulations.<sup>43</sup>

#### Popular Platforms

Among the most popular platforms that facilitate digital financial services in Uganda are mobile money systems, which enable users to store, send, and receive money through their mobile phones. Leading the market is MTN Mobile Money, launched in 2009, which has become the country's foremost mobile money provider with over 15 million active users as of 2023. This platform offers a variety of services, including money transfers, bill

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<sup>38</sup> United Nations Capital Development Fund (n 14).

<sup>39</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda), Section 6A and 9.

<sup>40</sup> Naeem (n 12).

<sup>41</sup> National Payment Systems Regulatory Sandbox Framework 2021.

<sup>42</sup> Bank of Uganda (n 6).

<sup>43</sup> Regulation (n 4).

payments, and savings options, making it a vital tool for both urban and rural populations in Uganda. The United Nations Capital Development Fund (UNCDF) has extensively documented the significant impact of MTN Mobile Money on financial inclusion, noting its role in providing accessible financial services to the unbanked and under-banked segments of the population.<sup>44</sup>

Airtel Money, another prominent platform introduced shortly after MTN Mobile Money, has also established a substantial presence in Uganda's digital financial landscape. With a wide range of services, such as money transfers, utility bill payments, and school fees payments, Airtel Money caters to millions of users across the country. The research of GSMA highlights the contribution of Airtel Money to financial inclusion, highlighting its ease of use and comprehensive service offerings, and integration with traditional banking services has further enhanced its usability, making it a cornerstone of financial activities for many Ugandans.<sup>45</sup>

The regulatory framework in Uganda has played a crucial role in supporting the growth and adoption of these mobile money platforms. The Bank of Uganda's Financial Stability Reports regularly underscore the importance of mobile money services like MTN Mobile Money, and Airtel Money in the country's financial ecosystem.<sup>46</sup> The law, along with its accompanying regulations, provides a robust legal foundation that ensures the security and reliability of mobile money services.<sup>47</sup> These regulations mandate strict compliance with customer due diligence protocols, transaction limits, and liquidity requirements, thereby maintaining the stability and trustworthiness of these platforms.<sup>48</sup> Consequently, mobile money systems have become integral to everyday financial activities for many Ugandans, significantly contributing to the country's financial inclusion efforts. The integration of mobile money services with traditional banking services has further

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<sup>44</sup> United Nations Capital Development Fund, 'Digital Financial Services in Uganda: Status and Opportunities' (2022) <<https://www.uncdf.org>> accessed 30 April 2024; International Finance Corporation, 'Building Resilience Through Digital Financial Services: Uganda' (IFC 2022) <<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099048506102239760/idu015b939b60217b045f0094060078519414c2d>> accessed 1 May 2024; World Bank, 'The Impact of Mobile Money on Poor Rural Households' (World Bank 2019) <<https://documents1.worldbank.org/curated/zh/134341561467884789/pdf/The-Impact-of-Mobile-Money-on-Poor-Rural-Households-Experimental-Evidence-from-Uganda.pdf>> accessed 1 May 2024.

<sup>45</sup> Ali Ndiwalana, Olga Morawczynski, and Oliver Popov, 'Mobile Money Use in Uganda: A Preliminary Study' (2023) <<https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/wp-content/uploads/2012/06/m4dmobilemoney.pdf>> accessed 1 May 2024; GSMA, '2020 Impact Innovation Award in Digital Wallets: Airtel Money Uganda' (GSMA 2020) <<https://www.gsma.com>> accessed 1 May 2024 accessed 10 October 2024; The Monitor, 'Airtel Money Bags Two Digital Impact Awards' *The Monitor* (18 November 2022) <<https://www.monitor.co.ug/uganda/business/technology/airtel-money-bags-two-digital-impact-awards-4031888>> accessed 1 April 2024.

<sup>46</sup> Bank of Uganda, 'Financial Stability Report' (Bank of Uganda 2023) <[https://archive.bou.or.ug/bou/download\\_archive.html?path=/bou/bou-downloads/financial\\_stability/&title=Publications&subtitle=Financial%20Stability%20Reports&restype=binary&secname=Financial%20Stability%20Report&year=Rpts&month=All](https://archive.bou.or.ug/bou/download_archive.html?path=/bou/bou-downloads/financial_stability/&title=Publications&subtitle=Financial%20Stability%20Reports&restype=binary&secname=Financial%20Stability%20Report&year=Rpts&month=All)> accessed 1 April 2024.

<sup>47</sup> National Payment Systems Act (2020), Cap. 59.

<sup>48</sup> GSMA, 'State of the Industry Report on Mobile Money' (GSMA 2023) <[https://www.gsma.com/sotir/wp-content/uploads/2024/03/GSMA-SOTIR-2024\\_Report.pdf](https://www.gsma.com/sotir/wp-content/uploads/2024/03/GSMA-SOTIR-2024_Report.pdf)> accessed 1 April 2024.



improved their usability, making them a cornerstone of everyday financial activities for many Ugandans.<sup>49</sup>

### Current Regulations

The regulatory framework that governs online money services in Uganda is designed to ensure the safety and reliability of these services.<sup>50</sup> As per the law, agreements must have legal consideration and objectives, and this forms the basis for establishing secure customer registration systems and other regulatory requirements.<sup>51</sup> Similarly, the Kenyan regulatory approach, governed by the National Payment Systems Act and the Banking Act, provides detailed guidelines on payment service providers, requiring strict compliance with licencing, consumer protection and data security measures.<sup>52</sup> This comprehensive regulatory oversight has ensured that both markets prioritise consumer safety, although the Kenyan model also emphasises the need for harmonisation of regulations across various financial service providers to avoid regulatory overlaps and inefficiencies.<sup>53</sup>

The legal effects of electronic records, the authenticity of data messages and the retention of information or records are provided for by law, and the importance of robust security measures and the duty of care of financial institutions was underscored in the case of *Aida Atiku v Centenary Rural Development Bank Limited*.<sup>54</sup> The court held that the bank is not liable for unauthorised transactions if it can demonstrate that it has implemented commercially reasonable security procedures. This ruling emphasises the need for financial institutions and customers to follow security protocols to reduce fraud risks.<sup>55</sup> Regulatory sandboxes according to Hilary, help in balancing the promotion of financial innovation with the need for consumer protection and financial stability by allowing limited tests of fintech products under regulatory supervision.<sup>56</sup>

The subsequent regulations outline stringent measures for electronic money issuers, including liquidity requirements, transaction limits, and customer due diligence protocols.<sup>57</sup> Additionally, the law ensures that access to computer systems and data is secure and authorised, further enhancing the legal framework.<sup>58</sup> In addition, guidelines that provide clarity on mobile money services, stipulate roles and responsibilities, and foster consumer protection also exist.<sup>59</sup> Despite these regulations, the UNCDF highlights that traditional lending methods still pose significant barriers for the informal sector.

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<sup>49</sup> Financial Institutions Act (1993), Cap. 57 (Uganda), Section 3.

<sup>50</sup> The National Payment Systems (Sandbox) Regulations, 2021.

<sup>51</sup> Contracts Act (1963), Cap. 284 (Uganda), Section 19.

<sup>52</sup> Banking Act (1995), Cap 488, (Kenya); National Payment Systems Act (2011), (Kenya).

<sup>53</sup> Githu (n 19).

<sup>54</sup> Electronic Transactions Act (2011), Cap.99 (Uganda), Section 5, 7, and 9.

<sup>55</sup> Civil Suit No. 0754 of 2020.

<sup>56</sup> Allen (n 10).

<sup>57</sup> National Payment Systems Regulations, 2021 No. 18, Part III, Regulation 17-18; Financial Institutions Act (1993), Cap. 57 (Uganda), Section 12.

<sup>58</sup> Computer Misuse Act (2011), Cap. 96, Section 3, 4, and 5.

<sup>59</sup> Bank of Uganda (BOU) Mobile Money Guidelines, 2013.

Digital credit, an emerging fintech model in Uganda, offers a potential solution, but is still in its early stages and is primarily focused on consumer lending.<sup>60</sup>

The guidelines mandate electronic money issuers to establish secure customer registration systems that provide proof of successful registration and ensure the activation of accounts through secure processes.<sup>61</sup> Additionally, it emphasises the importance of maintaining the integrity and security of the activation process, thereby safeguarding consumer interests and enhancing trust in digital financial services. The Bank of Uganda empowers the bank to supervise, regulate, control, and discipline all financial institutions, ensuring the integrity and security of their operations.<sup>62</sup> For example, the law details the regulations for electronic money issuance and circulation, including customer due diligence requirements and transaction limits.<sup>63</sup>

These regulatory measures are crucial in promoting a safe environment for the adoption and growth of online money services, ensuring that both service providers and consumers operate within a framework that supports financial inclusion while protecting consumer rights and data.<sup>64</sup> Penalties for breaches of these regulations, as outlined in the Regulations, ensure strict adherence and accountability among agents and principals.<sup>65</sup> In the case of *Kayondo v Bank of Uganda*, the High Court ruled on issues related to the Bank of Uganda's regulatory directives affecting cryptocurrency transactions. This case highlights the regulatory complexities and the importance of clear guidelines and consultations with industry stakeholders to avoid arbitrary and irrational regulatory actions, as emphasised in the judgment.<sup>66</sup>

In the case of *Katuntu v MTN Uganda Ltd & Anor*, the plaintiffs challenged the proper operation and regulation of mobile money services provided by telecommunications companies, arguing that these services should be classified as financial services and subject to stricter regulatory oversight. The court's ruling underscored the necessity of stringent regulatory measures to protect consumers, similar to those outlined in the National Payment Systems Act, 2020, which mandates secure customer registration and transaction processes to enhance consumer trust and safety in digital financial services.<sup>67</sup>

### 3.1 Comparison with Kenya's and the UK's Frameworks

Comparatively, Kenya's regulatory sandbox, mirrors Uganda's objectives of fostering innovation and improving consumer protection.<sup>68</sup> However, Kenya's framework integrates

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<sup>60</sup> United Nations Capital Development Fund (n 14).

<sup>61</sup> Bank of Uganda Financial Consumer Protection Guidelines, 2011, Part II, Paragraph 5; Electronic Signatures Act 7 of 2011.

<sup>62</sup> Bank of Uganda Act (1993), Cap. 54 (Uganda), Section 4(2)(j).

<sup>63</sup> National Payment Systems Act (2020), Cap. 59, Section 47-60.

<sup>64</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 12.

<sup>65</sup> Regulation 23 (n 5).

<sup>66</sup> (Miscellaneous Cause No. 109 of 2022) [2023] UGHCCD 113 (24 April 2023).

<sup>67</sup> (HCCS 248 of 2012) [2015] UGCommC 83 (29 May 2015).

<sup>68</sup> Central Bank of Kenya (Digital Credit Providers) Regulations (2022).



a more comprehensive approach by consolidating diverse regulatory guidelines under a unified oversight, which addresses data security and licencing requirements for digital lenders, providing a more streamlined regulatory environment.<sup>69</sup> This consolidation strengthens Kenya's position in managing data security challenges that are prevalent in the fintech sector.<sup>70</sup>

The UK's regulatory sandbox, established by the Financial Conduct Authority as part of its Project Innovate initiative, is a pioneer in the regulatory sandbox landscape. The UK model emphasises collaborative interactions between innovators and regulators, facilitating a proactive approach to compliance and innovation. Unlike the Ugandan sandbox, the UK framework allows cross-border testing, enhancing its effectiveness in managing the global nature of fintech innovations. This international focus enables the UK to set a precedent for other jurisdictions, highlighting the importance of flexible regulatory environments that adapt to rapid technological changes.<sup>71</sup>

### 3.2 Coordination between national and regional legal frameworks

Coordinating legal frameworks in Uganda, Kenya, and the UK presents significant challenges, particularly in aligning regulatory standards for fintech operations. Uganda's regulatory sandbox, while effective in domestic settings, lacks clear guidelines for cross-border testing, limiting its applicability compared to more developed models such as those of the UK. The absence of such operational guidelines restricts Uganda's ability to fully integrate its sandbox framework within regional and international contexts, posing challenges for fintech firms that want to scale their operations across borders.<sup>72</sup>

The different regulatory approaches in East Africa further complicate harmonisation efforts, with the consolidated Kenya framework offering a more unified regulatory approach compared to the segmented structure of Uganda. This disjointed regulatory landscape creates compliance challenges and reduces the effectiveness of cross-border financial services, underlining the need for coordinated efforts to align national sandboxes with regional best practices. Enhanced cooperation and standardisation are crucial to improving the regulatory landscape, promoting innovation, and ensuring robust consumer protection across jurisdictions.<sup>73</sup>

Uganda's regulatory sandbox plays a vital role in the advancement of digital financial services by providing a controlled environment for innovation. However, to fully exploit its potential, Uganda must improve its framework by adopting successful Kenyan and United Kingdom practices, focussing on improving the coordination of national and

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<sup>69</sup> National Payment Systems Act (2011) (Kenya), Section 3.

<sup>70</sup> Githu (n 19).

<sup>71</sup> Rupeika-Apoga and Thalassinou (n 18).

<sup>72</sup> Ahmad Alaassar, Anne-Laure Mention, and Tor Helge Aas, 'Exploring a New Incubation Model for FinTechs: Regulatory Sandboxes' (2021) 103 *Technovation* 102237.

<sup>73</sup> Naeem (n 12).

regional legal frameworks. This will enable Uganda to effectively address digital financial risks, particularly those related to foreign ICT service providers, and to improve data security and service continuity within its rapidly evolving financial sector.

#### **4 Digital Financial Risks in Uganda**

Uganda's digital financial services (DFS) sector, heavily dependent on foreign ICT service providers, faces significant risks related to data security, service continuity, and regulatory gaps. A primary risk involves the management of sensitive financial data by foreign entities, which may not fully align with Uganda's local data protection regulations, thus exposing the sector to potential data breaches and unauthorised access. These security vulnerabilities are exacerbated by the inconsistent global regulatory standards, which can create loopholes in the protection of consumer data held by foreign service providers.<sup>74</sup>

Another critical concern is the risk of service continuity, arising from the dependence on foreign ICT infrastructure that might not be fully compliant with Uganda's operational standards. Interruptions in the ICT providers' networks due to cyberattacks, technical malfunctions, or geopolitical influences can severely disrupt financial services, impacting millions of mobile money users.<sup>75</sup>

Regulatory gaps also present a substantial risk, particularly in the oversight of foreign ICT providers. The cross-border nature of these services complicates the enforcement of compliance with Ugandan laws, increasing exposure to unregulated practices that could undermine service reliability and data security. For example, the law requires financial institutions to conduct comprehensive risk assessments and implement appropriate measures to manage these vulnerabilities, underscoring the importance of stringent regulatory oversight.<sup>76</sup>

The implications of these identified risks are profound and directly affect service continuity and data security in the financial landscape of Uganda. Disruptions caused by ICT failures or security breaches not only lead to financial losses, but also erode consumer trust and threaten the stability of the entire DFS ecosystem. According to the law, stringent measures such as mandatory reporting and ongoing risk assessments are vital to mitigate the risks posed by foreign ICT service providers.<sup>77</sup>

Data security breaches, in particular, expose consumers to fraud and identity theft, further compromising the integrity of digital financial services. Regulatory sandboxes, such as those established under the 2021 National Payment Systems Regulatory Sandbox Framework, play a crucial role in addressing these issues by allowing the controlled testing

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<sup>74</sup> Regulation (n 4).

<sup>75</sup> The National Payment Systems Regulatory Sandbox Framework 2021 in Uganda.

<sup>76</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda), Section 6A and 9.

<sup>77</sup> *ibid.*



of new technologies in compliance with local security standards before their public release.<sup>78</sup>

Comparative analysis with the UK and Kenya reveals that although Uganda's regulatory frameworks share some alignment with international best practices, they still fail to manage specific risks related to foreign ICT service providers. The UK's sandbox model emphasises collaborative interactions between regulators and service providers, creating a secure testing environment that balances innovation with stringent compliance requirements, offering a potential pathway for Uganda to strengthen its regulatory approaches.<sup>79</sup>

## 5 Risks Posed by Foreign Economic Operators

The entry of foreign economic operators into Uganda's digital financial services, particularly in the mobile money sector, has reshaped the dynamics of the local market. Although these entities introduce advanced technologies and significant capital investment, they also pose risks, such as market dominance, data privacy breaches, and disruptions to service continuity that can compromise local market resilience. Foreign firms often exploit regulatory inconsistencies between national and regional frameworks, thus disadvantaging local companies that lack similar resources and influence. For example, the participation of international technology companies in Uganda's mobile money market has intensified competition but raised concerns about data security and consumer privacy. These foreign entities often control critical infrastructure and manage large volumes of sensitive customer data, which are vulnerable to exploitation if they are not adequately protected under Uganda's legal jurisdiction.

In Kenya, similar issues have arisen with the influence of foreign economic operators in shaping the digital financial sector. The regulatory measures of the Central Bank of Kenya, such as the 2022 Digital Credit Providers Regulations, were introduced to address concerns about data privacy and prevent exploitation by foreign companies, setting a precedent that Uganda could follow.<sup>80</sup> In Kenya, the dominance of foreign-influenced companies such as Safaricom highlights the challenges local markets face. Safaricom's significant market share has led to regulatory interventions to address concerns about monopolistic behaviour and consumer data security, including data localisation mandates and stricter consumer protection rules.<sup>81</sup>

The UK has also managed similar risks associated with foreign fintech operators. The Financial Conduct Authority has established stringent compliance requirements that

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<sup>78</sup> Bank of Uganda, The National Payment Systems Regulatory Sandbox Framework 2021 in Uganda.

<sup>79</sup> Data Protection Act (2018), (c 12), (United Kingdom); Allen (n 10).

<sup>80</sup> Central Bank of Kenya (Digital Credit Providers) Regulations (2022).

<sup>81</sup> Githu (n 19).

include comprehensive vetting processes and ongoing supervision to ensure that foreign firms adhere to local data protection and anti-money laundering standards.<sup>82</sup>

These examples illustrate the importance of a robust regulatory framework that not only fosters innovation, but also mitigates the risks posed by foreign economic operators. Drawing lessons from Kenya and the UK, Uganda can improve its regulatory landscape to better protect local markets and ensure the integrity of consumer data.

## 6 Key regulatory challenges in Uganda

### Technical Barriers

Implementing regulatory sandboxes in Uganda faces significant technical barriers. Although the law details the licencing requirements, corrective actions, and regulatory sandbox framework, one of the primary challenges is the integration of new financial technologies with existing systems.<sup>83</sup> Concerns have also been raised about the implications of mobile money for the conduct of monetary policy in Uganda.<sup>84</sup> The adoption and use of mobile money imply a gradual substitution of real cash balances for bank deposits, which often requires substantial upgrades to the current infrastructure, which can be costly and time consuming.<sup>85</sup> Clear and enforceable contracts, as outlined in the contract law, particularly regarding the capacity to contract, play a crucial role in mitigating these challenges by ensuring that all parties are legally competent and their agreements are binding.<sup>86</sup>

The Bank of Uganda's oversight framework, as outlined in the National Payment Systems Oversight Framework, addresses these challenges through a cooperative oversight approach, involving collaboration with other domestic and cross-border authorities.<sup>87</sup> This cooperation helps to align new technologies with existing regulatory requirements, thereby facilitating smoother integration and ensuring the robustness of Uganda's payment systems. In addition, there is the challenge of ensuring that these new technologies are secure and can handle the complexities of real-world financial transactions without failure. Similar challenges are observed in other regions, such as the UK. In his research, Christopher highlights that "the sandbox approach can buy some time for regulators, incumbent financial institutions, and new technology firms to try out new services with minimal legal risk".<sup>88</sup>

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<sup>82</sup> The Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations, (2017) (SI 2017/692), (United Kingdom); Rupeika-Apoga and Thalassinou (n 18).

<sup>83</sup> National Payment Systems Act (2020), Cap. 59, Sections 7-13 and 16-18.

<sup>84</sup> Brown and Piroška (n 3).

<sup>85</sup> Joseph Mawejje and Paul Lakuma, 'Macroeconomic Effects of Mobile Money: Evidence from Uganda' (2019) 5 Financial Innovation 23 <<https://doi.org/10.1186/s40854-019-0141-5>> accessed 30 April 2024; National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 5(1)(a); Bank of Uganda (BOU) Mobile Money Guidelines, 2013.

<sup>86</sup> Contracts Act (1963), Cap. 284 (Uganda), Section 11.

<sup>87</sup> Bank of Uganda, The National Payment Systems Oversight Framework (June 2021).

<sup>88</sup> Chen (n 22).





Another prominent challenge is to address the risks posed by foreign ICT service providers, which often operate under varying legal conditions that can conflict with local data protection and consumer safety laws. Uganda's framework struggles to harmonise its regulations with broader regional and international standards, highlighting the critical need for regulatory reforms that address these specific challenges.<sup>89</sup>

Another technical hurdle is the development of systems that can effectively monitor and evaluate the performance of new services within the sandbox. These systems must not only track performance, but also ensure compliance with regulatory standards, which can vary significantly from one service to another.

### Regulatory Hurdles

Regulatory hurdles also pose a significant challenge in the implementation of testing grounds. Existing legal frameworks may not always be adaptable to the flexible nature required by sandboxes. For example, laws, guidelines, and regulations can provide a structured regulatory environment, but may need amendments to accommodate the dynamic testing of financial technologies in a sandbox setting. For example, the guidelines provide a requirement for the suitability of advice and ensure that the financial products recommended to consumers are appropriate.<sup>90</sup> Furthermore, the process of obtaining approval for sandbox operations involves navigating through extensive bureaucratic procedures. Sandboxes in South Korea have also faced similar technical and regulatory hurdles, necessitating extensive coordination among regulators and iterative improvements to the sandbox framework. This can delay the launch of innovative projects, discourage stakeholders and potentially hinder innovation.<sup>91</sup>

The decision in the case of *Kayondo v. Bank of Uganda* underscores the importance of regulatory clarity and proper stakeholder participation in the implementation of financial regulations. The court's findings on the procedural flaws and irrationality in the Bank of Uganda's directives provide critical insight into the need for a more adaptable and consultative regulatory approach to support innovation without compromising legal propriety.<sup>92</sup>

### User scepticism

User scepticism is another critical challenge. The ruling in *Aida Atiku v Centenary Rural Development Bank Limited* illustrates the consequences of negligence on the part of the customer. The court held that the customer, who allowed a third-party access to his device and security information, was at risk of unauthorised transactions. This case highlights the importance of user adherence to security protocols and the need for

<sup>89</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda), Sections 6A and 9.

<sup>90</sup> Bank of Uganda Financial Consumer Protection Guidelines, 2011, Part II, Paragraph 6(3)(a).

<sup>91</sup> World Bank (n 27).

<sup>92</sup> (Miscellaneous Cause No. 109 of 2022) [2023] UGHCCD 113 (24 April 2023).

continuous consumer education on the risks associated with digital financial services.<sup>93</sup> Despite the potential benefits of new financial technologies tested in regulatory sandboxes, users may be hesitant to adopt these innovations due to concerns about their security and reliability.<sup>94</sup> Building user trust requires transparent operations within the sandbox, clear communication of the benefits, and demonstration of robust security measures to protect user data and transactions.

Additionally, there is a need for ongoing education and awareness campaigns to help users understand how these new technologies work and the safeguards put in place to protect their interests.<sup>95</sup> Without strong user buy-in, even the most innovative financial products may see limited adoption, undermining the objectives of financial inclusion and market competition.<sup>96</sup>

### 6.1 Analysis of the legal framework: Uganda, Kenya, and the UK

The regulatory sandbox frameworks in Uganda, Kenya, and the UK demonstrate both convergences and divergences in their approaches. Uganda's regulatory sandbox is governed by the law and its accompanying regulations, which establish a legal foundation for controlled testing environments for financial innovations. However, the framework lacks clear guidelines on cross-border testing, limiting its effectiveness in a broader international context.<sup>97</sup>

Kenya's approach, defined under the Regulations, consolidates various regulatory guidelines under the Central Bank's supervision, addressing critical issues of data security and regulatory compliance.<sup>98</sup> In contrast, the UK's sandbox, introduced by the law as part of its Project Innovate initiative, emphasises collaborative regulation and tailored exemptions that support fintech innovation while protecting consumer interests.<sup>99</sup>

The analysis underscores that Uganda needs to adopt more adaptive regulatory measures, learning from the UK's customised sandbox programmes, which strike a balance between fostering innovation and maintaining robust consumer protections.<sup>100</sup>

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<sup>93</sup> Civil Suit No. 0754 of 2020.

<sup>94</sup> Radostina Parenti, 'Regulatory Sandboxes and Innovation Hubs for FinTech: Impact on Innovation, Financial Stability and Supervisory Convergence' (Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2020 <[https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652752/IPOL\\_STU\(2020\)652752\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652752/IPOL_STU(2020)652752_EN.pdf)> accessed 30 April 2024.

<sup>95</sup> National Payment Systems (Consumer Protection) Regulations, (2022) No. 103, Regulation 9.

<sup>96</sup> Jimmy Ebong and Babu George, 'Financial Inclusion through Digital Financial Services (DFS): A Study in Uganda' (2021) 14(393) *Journal of Risk and Financial Management* 393.

<sup>97</sup> National Payment Systems Act (2020), Cap. 59, Section 16.

<sup>98</sup> Githu (n 19).

<sup>99</sup> Rupeika-Apoga and Thalassinou (n 18).

<sup>100</sup> Allen (n 10).



## 6.2 Operational Challenges in Implementing Regulatory Sandboxes

Operational challenges in implementing sandboxes in Uganda include limited regulatory capacity, insufficient technical expertise among regulators, and inadequate collaboration between the government and private sector innovators.<sup>101</sup> Furthermore, the absence of standardised evaluation metrics for innovations can lead to extended testing phases, further complicating the process of bringing fintech solutions to market.<sup>102</sup>

The lack of defined feedback and engagement mechanisms between regulators and participants further restricts the ability of the sandbox to evolve in response to technological advancements. There is a pressing need for Uganda to incorporate best practices from Kenya and the United Kingdom, focussing on better coordination across legal frameworks, streamlined testing procedures, and capacity building initiatives for regulators and participants.<sup>103</sup>

## 7 Overview of Risk Mitigation Approaches in Regulatory Sandboxes

Regulatory sandboxes serve as essential tools for managing the risks associated with digital financial services (DFS) by providing a controlled environment in which new technologies can be tested under regulatory oversight. In Uganda, these sandboxes help mitigate risks related to foreign ICT service providers, economic operators, and digital financial products, striking a balance between innovation and consumer protection. Successful sandbox implementations in other jurisdictions, such as the UK and Kenya, provide information on effective risk mitigation strategies that Uganda can adopt.

In the UK, the Financial Conduct Authority operates a sandbox that emphasises proactive interactions between regulators and innovators. This approach allows companies to test compliance and operational aspects incrementally, thus minimising systemic risks and consumer harm.<sup>104</sup> Similarly, the Kenyan Sandbox, regulated by the Central Bank, mandates rigorous data protection and consumer safety standards, requiring digital lenders to comply with stringent data security protocols and licencing requirements to protect consumer interests.<sup>105</sup>

### Monitoring and compliance

Financial regulators in Uganda play a crucial role in monitoring and ensuring compliance within the digital financial services sector.<sup>106</sup> Their main responsibility is to supervise the activities of electronic money issuers and ensure that they comply with the regulations

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<sup>101</sup> *ibid.*

<sup>102</sup> National Payment Systems Regulatory Sandbox Framework 2021 in Uganda.

<sup>103</sup> Bank of Uganda, The National Payment Systems Regulatory Sandbox Framework 2021.

<sup>104</sup> Allen (n 10).

<sup>105</sup> Githu (n 19).

<sup>106</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 4(1)(d).

set forth in the law.<sup>107</sup> This includes overseeing the functions of the central bank, enforcing licensing requirements, and monitoring payment systems.<sup>108</sup> This includes monitoring the daily and weekly submissions by electronic money issuers of reconciliation statements and reports on the balances in trust accounts.<sup>109</sup> Regulators are also tasked with overseeing the security and integrity of electronic money services, ensuring that activation processes are secure and that customer identities are protected during transactions. In addition, the law requires the recording and reporting of cash and monetary transactions to prevent money laundering activities, thereby supporting the regulatory framework's aim to safeguard financial integrity.<sup>110</sup> The Bank of Uganda, under its mandate, advises and informs the Government on financial matters, ensuring compliance with established standards.<sup>111</sup>

The *Katuntu* case further illustrated the critical role of financial regulators in the oversight of mobile money services to ensure that they operate within legal frameworks and protect consumer interests. The court's decision in this case reinforced the importance of regulatory bodies in maintaining the integrity and security of financial transactions, which aligns with the responsibilities outlined for regulators in the law.<sup>112</sup>

## Guidelines

Regulators develop and enforce guidelines that govern the digital financial landscape.<sup>113</sup> In Uganda, the regulatory framework governing digital financial services is designed to ensure both stability and consumer protection. This framework includes specific guidelines developed and enforced by the Bank of Uganda, which is the central authority responsible for the oversight of the financial sector. Furthermore, the regulation of trust accounts, which requires approval from the Bank of Uganda, provides an additional layer of security for customer funds, mitigating the risks associated with mismanagement or fraud.<sup>114</sup>

Consumer protection is another critical aspect of Uganda's regulatory framework. The National Payment Systems Act requires transparency, accountability, and data protection measures for electronic money issuers. These issuers must fully disclose service-related information and protect consumers from unfair trade practices. Complementing these efforts, the law requires financial institutions to maintain accurate records of electronic funds transfers, thus improving accountability and ensuring that financial transactions

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<sup>107</sup> Financial Institutions Act (1993), Cap. 57 (Uganda), Section 62 and 64; Bank of Uganda Financial Consumer Protection Guidelines, 2011, Part II, Paragraph 5.

<sup>108</sup> National Payment Systems Act (2020), Cap. 59, Sections 4-15 and 19-23; Parma Bains and Caroline Wu, 'Institutional Arrangements for Fintech Regulation: Supervisory Monitoring' (26 June 2023) eISBN 9798400245664.

<sup>109</sup> Electronic Transactions Act (2011), Cap.99 (Uganda), Section 8 and 10.

<sup>110</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda), Section 8.

<sup>111</sup> Bank of Uganda Act (1993), Cap. 54 (Uganda), Section 32(1).

<sup>112</sup> *Katuntu v MTN Uganda Ltd & Anor* (HCCS 248 of 2012) [2015] UGCommC 83 (29 May 2015).

<sup>113</sup> Bank of Uganda (BOU) Mobile Money Guidelines, 2013; Bank of Uganda Financial Consumer Protection Guidelines, 2011.

<sup>114</sup> National Payment Systems Act (2020), Cap. 59.



adhere to stringent standards of transparency and data integrity.<sup>115</sup> In the event of fraud or security breaches, they are required to report these incidents promptly to the central bank. Laws, guidelines, and regulation further improve consumer safety by requiring robust systems for the integrity and security of customer transactions.<sup>116</sup> These measures collectively ensure that consumers are well protected in the digital financial landscape.

Efforts to promote financial inclusion are also embedded in Uganda's regulatory guidelines. Policies aimed at expanding mobile money networks into rural areas, reducing transaction fees, and improving financial literacy are vital to overcome barriers to financial access. These initiatives are supported by various studies and reports, such as those by the United Nations Capital Development Fund (UNCDF), which highlight the importance of expanding financial services to underserved populations.<sup>117</sup> The comprehensive approach taken by the Bank of Uganda in developing and enforcing these guidelines underscores the commitment to creating a secure, inclusive, and stable digital financial ecosystem in Uganda.<sup>118</sup>

Guidelines also include setting liquidity requirements and transaction limits as prescribed under the National Payment Systems Act. These guidelines ensure that electronic money issuers maintain sufficient liquidity to meet their obligations and impose limits to manage risks effectively. Furthermore, policies regarding the opening and operation of trust accounts are strictly regulated and require approval from the central bank to ensure proper management and safeguarding of customer funds. The research emphasised the importance of policy measures such as expanding mobile money networks in rural areas, reducing transaction fees, and improving financial literacy to overcome barriers to financial inclusion.<sup>119</sup>

## 7.1 Successful Practices of Other Jurisdictions

The UK's regulatory sandbox, developed by the Financial Conduct Authority (FCA), provides a collaborative environment that encourages engagement between regulators and fintech companies. This model allows fintechs to test innovative solutions while gradually complying with regulations, facilitating real-time identification of potential risks before broader market deployment. One of the successful practices includes the issuance

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<sup>115</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda).

<sup>116</sup> Bank of Uganda, Mobile Money Guidelines 2013; National Payment Systems (Consumer Protection) Regulations 2022, SI 103; Bank of Uganda, 'Mobile Money Guidelines 2013' (Bank of Uganda 2013) <[https://www.bou.or.ug/bouwebsite/bouwebsitecontent/acts/other\\_acts\\_regulations/Mobile-Money-Guidelines-2013.pdf](https://www.bou.or.ug/bouwebsite/bouwebsitecontent/acts/other_acts_regulations/Mobile-Money-Guidelines-2013.pdf)> accessed 5 April 2024; National Payment Systems (Consumer Protection) Regulations 2022, SI 103 <<https://www.bou.or.ug/bouwebsite/PaymentSystems/legal.html>> accessed 5 April 2024.

<sup>117</sup> UNCDF, 'Digital Financial Services for Development' (UNCDF 2023) <<https://www.uncdf.org/article/3521/digital-financial-services-in-uganda>> accessed 5 April 2024.

<sup>118</sup> Bank of Uganda, Regulatory Sandbox Framework Bank <[https://www.bou.or.ug/bouwebsite/bouwebsitecontent/MediaCenter/press\\_releases/2021/Jun/BoU-Launches-a-Regulatory-Sandbox-Framework.pdf](https://www.bou.or.ug/bouwebsite/bouwebsitecontent/MediaCenter/press_releases/2021/Jun/BoU-Launches-a-Regulatory-Sandbox-Framework.pdf)> accessed 5 April 2024.

<sup>119</sup> Jana S Hamdan, Katharina Lehmann-Uchner and Lukas Menkhoff (n 31).

of tailored regulatory waivers that allow companies to innovate under specific conditions without the immediate burden of full compliance.<sup>120</sup>

The Kenyan regulatory sandbox emphasises consumer protection and data security through stringent requirements outlined in the Regulations.<sup>121</sup> This framework ensures that sandbox participants adhere to rigorous data protection standards, providing a secure environment for testing new digital financial products. The focus of the Kenyan model on aligning sandbox operations with national and regional regulations has been effective in managing cross-border risks and improving the resilience of the financial ecosystem.<sup>122</sup>

## **7.2 Recommendations for the Ugandan regulatory framework**

**Adopt collaborative regulatory approaches:** Uganda should improve collaborative efforts between regulators and innovators, drawing on the model of the United Kingdom, which promotes ongoing consultation and feedback within the sandbox. This approach helps identify compliance issues early and aligns innovative activities with regulatory standards.

**Strengthen Data Protection and Consumer Protections:** Using Kenya's focus on stringent data protection measures, Uganda should ensure that all participants in the sandbox implement robust security protocols to protect consumer data. Enhancing data protection will mitigate the risks associated with cyber threats and unauthorised access to data.

**Develop Cross-Border Testing Guidelines:** Uganda should incorporate cross-border testing provisions into its regulatory framework, establishing protocols that facilitate cooperation with regional regulators. This will improve Uganda's ability to manage international risks effectively, particularly those associated with foreign ICT service providers.

**Implement Incremental Compliance Measures:** Uganda could introduce incremental compliance requirements, similar to the UK approach, allowing companies to gradually meet regulatory obligations. This strategy fosters a more adaptive regulatory environment, supporting innovation while maintaining high standards of consumer protection.

These recommendations aim to strengthen Uganda's regulatory sandboxes, ensuring that they support financial innovation while effectively mitigating risks in the landscape of digital financial services.

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<sup>120</sup> Baker McKenzie (n 7).

<sup>121</sup> Central Bank of Kenya (Digital Credit Providers) Regulations (2022).

<sup>122</sup> Githu (n 19).



## 8 Key Features and Benefits of Regulatory Sandboxes

Regulatory sandboxes provide a controlled environment that enables fintech companies to test new products and services under regulatory supervision without the full regulatory burden that would normally apply. This safe space promotes innovation while allowing regulators to monitor and manage the risks associated with emerging technologies. In Uganda, the sandbox framework facilitates experimentation with digital financial services (DFS), specifically mobile money, by providing customised regulatory guidance and temporary exemptions from standard regulations, thus improving service continuity and data security. The regulations specifically outline the procedures and criteria for participating in the sandbox, emphasising the importance of maintaining market integrity during the testing phase.<sup>123</sup> Unlike other countries, the UK's sandbox approach promotes proactive regulator-innovator contacts, creating a collaborative environment that balances innovation and regulation. These interactions allow companies to offer goods slowly while meeting regulatory requirements, eliminating financial system disruptions. Kenya's sandbox allows digital credit providers to test compliance and security before launching new services.

Regulatory sandboxes include consumer protection to ensure that creative goods meet data security and consumer rights standards from the start. Electronic money issuers must comply with central bank consumer protection regulations, such as transparency, accountability, and data protection. The law mandates the transparency of the payment system and the protection of consumers' data. These standards protect users from unfair trade practices and require complete service disclosure. Electronic money issuers must promptly report fraud, security breaches, and significant service interruptions to the central bank to protect consumer interests and the integrity of the financial system.

Regulatory sandboxes have improved consumer safety, but also raise concerns about data privacy because they test new financial technologies with sensitive personal and financial data. The law requires electronic money providers to maintain strong systems for transaction integrity and security, supporting strict data privacy safeguards. All electronic money issuers must follow strict data handling and privacy rules under the law. Similarly, the UK sandbox enforces stringent consumer protection rules, including enhanced data protection protocols and risk management frameworks to prevent financial fraud and protect consumer interests during product trials. Kenya's approach mirrors this by mandating digital lenders within the sandbox to obtain licences and adhere to data protection guidelines, creating a secure environment that minimises consumer risk.

Financial inclusion is promoted through regulatory sandboxes, which remove fintech company entry hurdles and encourage financial services competition and innovation. Sandboxes have helped Ugandans adopt new business models that offer affordable and accessible financial services, especially to the unbanked. This has boosted mobile money

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<sup>123</sup> The National Payment Systems (Sandbox) Regulations, (2021) S.I. No. 20 of 2021.

services, advancing financial inclusion. The impact of sandboxes on market efficiency is also evident as they promote interoperability among financial service providers, reducing transaction costs, and enhancing service delivery. In Kenya, the sandbox environment has facilitated the development of interoperable platforms that allow seamless transactions across different mobile money operators, improving overall market efficiency and consumer access to services.<sup>124</sup> The UK's regulatory sandbox also exemplifies this by supporting the entry of innovative payment systems that enhance competition and efficiency in the digital financial landscape.<sup>125</sup>

## 9 Implementation of Testing Grounds in Uganda

The Ugandan government has been proactive in establishing a regulatory framework conducive to the growth of digital financial services (DFS). Allen highlights the need for a well-structured regulatory sandbox that provides ongoing regulatory engagement and lowers barriers to entry for new fintech firms. This approach aligns with Uganda's efforts to create a supportive regulatory environment for DFS innovation. A significant part of this initiative is the implementation of regulatory sandboxes, which allow for the testing of new financial technologies under a controlled regulatory environment. The law supports this initiative by stipulating the prevention of unauthorised access, modifications, and electronic fraud, ensuring a secure testing environment.

The law provides for the establishment, application, and approval process for operating a sandbox.<sup>126</sup> The regulation provides the legal backing for these initiatives, ensuring that all electronic money issuers adhere to stringent guidelines concerning liquidity, transaction limits, and customer due diligence.<sup>127</sup> In comparison, the UK has also adopted regulatory sandboxes to foster innovation while ensuring compliance with regulatory standards. Based on the author's survey, "the sandbox approach allows small-scale, live testing of innovations by private firms in a controlled environment operating under a special exemption, allowance, or other limited, time-bound exception".

To improve the implementation of testing grounds, the Ugandan government collaborates with various technology companies. This partnership focuses on integrating advanced technological solutions into the financial sector to address specific regulatory challenges, for example, the use of blockchain technology is explored to improve the security and efficiency of transactions. These collaborations are essential to tailor the regulatory environment to the dynamic needs of the financial market, ensuring that innovations align with consumer protection standards.

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<sup>124</sup> Githu (n 19).

<sup>125</sup> Baker McKenzie (n 7).

<sup>126</sup> National Payment Systems Act (2020), Cap. 59, Section 16-18.

<sup>127</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Part III.





The implementation of testing grounds in Uganda has shown notable success through various case studies. An exemplary case involves Beyonic, a company that provides a digital payment toolbox to small and medium enterprises (SMEs). Through the sandbox, Beyonic was able to enhance its cross-border payment capabilities by partnering with MFS Africa, thus extending its services to more than 40 countries in Africa. This partnership not only expanded their geographical presence but also added value-added services, significantly enriching the customer experience while ensuring compliance with regulatory standards.<sup>128</sup> Additionally, there was a collaboration between MTN Uganda and Stanbic Bank, which used the sandbox to test a mobile money platform. This initiative significantly reduced fraudulent transactions and enhanced user verification processes, showcasing the sandbox's role in allowing firms to refine their technology in a secure environment before a broader rollout. This case illustrates the critical importance of testing grounds in mitigating the risks associated with new financial technologies.<sup>129</sup>

Another significant case is Pezesha, a Kenyan-based capital enabler platform that connects SMEs in sub-Saharan Africa with working capital and other financial services. Pezesha leveraged Uganda's regulatory sandbox to test its debt-based crowdfunding platform. Following a successful one-year testing period, the Capital Markets Authority (CMA) granted Pezesha a letter of 'No Objection' to operate in Kenya's capital markets. This allowed Pezesha to provide financial education and proprietary credit scoring technology to match SMEs with appropriate financial institutions, showcasing the sandbox's role in facilitating innovation and compliance within a controlled environment.<sup>130</sup>

Uganda's proactive financial sector technological innovation management is shown in these case studies. Uganda is a model for balancing innovation and regulation by providing a regulated environment for companies to test and improve their products. MTN Uganda, Stanbic Bank, and Xente Tech Ltd. demonstrate the benefits of the regulatory sandbox in customer safety and regulatory compliance. As these initiatives continue to evolve, they provide valuable lessons for enhancing the stability and security of digital financial services.<sup>131</sup> This case highlights the sandbox's role in allowing the firm to refine its technology in a secure environment before a broader rollout. Another case involved a digital payment service that used the sandbox to experiment with cross-border payment solutions, which helped to establish robust mechanisms to handle international transactions securely and efficiently.<sup>132</sup>

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<sup>128</sup> FinTech Showcase: Regulatory and Supervisory Approaches to Financial Technology (Alliance for Financial Inclusion 2021) <[https://www.afi-global.org/wp-content/uploads/2021/07/FinTech-showcase\\_SR\\_27.7.2021.pdf](https://www.afi-global.org/wp-content/uploads/2021/07/FinTech-showcase_SR_27.7.2021.pdf)> accessed 1 May 2024.

<sup>129</sup> Background to the Budget 2021/22 (Ministry of Finance, Planning and Economic Development 2021) <[https://budget.finance.go.ug/sites/default/files/National Budget docs/Background to the Budget 2021\\_22.pdf](https://budget.finance.go.ug/sites/default/files/National%20Budget%20docs/Background%20to%20the%20Budget%202021_22.pdf)> accessed 1 May 2024.

<sup>130</sup> *ibid.*

<sup>131</sup> Background to the Budget 2021/22 (n 129).

<sup>132</sup> Bank of Uganda, 'The National Payment Systems Regulatory Sandbox Framework, 2021' (June 2021).

## 10 Impact on Consumer Safety and Market Stability

### 10.1 Enhanced security measures

The implementation of regulatory sandboxes in Uganda has significantly improved the security measures for digital financial services (DFS). The rapid expansion of mobile money has attracted much debate about its implications for the growth of the financial sector and the effectiveness of monetary policy.<sup>133</sup> These controlled environments facilitate rigorous testing of new financial technologies, ensuring that vulnerabilities are identified and mitigated before full-scale deployment.<sup>134</sup> For example, the activation process for electronic money services now includes secure messaging systems that protect the customer's identity, which is crucial for preventing identity theft and fraud.<sup>135</sup> The UK has similarly used regulatory sandboxes to improve consumer protection.<sup>136</sup>

The Bank of Uganda, guided by the National Payment Systems Oversight Framework, plays a critical oversight role, ensuring that all payment systems adhere to safety and efficiency standards.<sup>137</sup> This oversight includes rigorous monitoring and assessment protocols that address vulnerabilities in DFS, ensuring compliance with the Principles for Financial Market Infrastructures (FMIs) as recommended by the BIS-IOSCO. The rapid expansion of mobile money services requires such robust oversight to mitigate systemic risks and support monetary stability in the financial sector.

Additionally, the legislation requires electronic money issuers to maintain strong systems for the integrity and security of customer transactions, further enhancing consumer safety. The *Katuntu* case highlighted significant security concerns associated with the operation of mobile money services, which the court addressed by highlighting the need for regulatory oversight to prevent fraudulent activities and protect consumer interests. This case underscores the importance of regulatory sandboxes that facilitate the testing and refinement of security measures before new technologies are fully deployed.<sup>138</sup> In light of the ruling in the case of *Kayondo v. Bank of Uganda*, it is evident that regulatory actions must be balanced and well informed to prevent adverse impacts on innovation and consumer protection. The case highlights the need for regulatory

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<sup>133</sup> Mawejje and Lakuma (n 85).

<sup>134</sup> National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 5; World Bank, 'How to Build a Regulatory Sandbox - A Practical Guide for Policymakers' (World Bank 2020) <<https://cdn.sanity.io/files/hr4v9eo1/production/c329a5672d38adb9ec3970c5e4338ec89ba844a8.pdf>> accessed 30 April 2024.

<sup>135</sup> National Payment Systems Regulations, 2021 No. 18, Regulation 19; National Payment Systems (Consumer Protection) Regulations, 2022 No. 103, Regulation 6; Electronic Transactions Act (2011), Cap.99 (Uganda), Section 7 and 11; Bank of Uganda (BOU) Mobile Money Guidelines, 2013.

<sup>136</sup> Chen (n 22).

<sup>137</sup> Bank of Uganda, The National Payment Systems Oversight Framework (June 2021).

<sup>138</sup> *Katuntu v MTN Uganda Ltd & Anor* (n 112).



measures that do not arbitrarily disrupt market activities. but instead promote secure and reliable financial transactions within a well-structured legal framework.<sup>139</sup>

## 10.2 Improved user experience

In digital finance, regulatory sandboxes have improved security and user experience. These sandboxes test new products and services in real life to ensure they meet consumer needs. Sandboxes in the UK has demonstrated the importance of real-world testing to improve user interfaces and functionality, directly leading to higher user satisfaction and increased adoption rates of digital financial.<sup>140</sup> This approach enables financial institutions to refine their offerings based on direct customer feedback, leading to more intuitive interfaces and functionality that cater to the specific needs of the Ugandan populace. As a result, consumers enjoy a more seamless and satisfying interaction with digital financial platforms, which encourages the continued use and trust in these services.

The future of digital financial services (DFS) in Uganda looks promising with plans to expand existing regulatory sandboxes. This is also supported by the law which provides for the legal framework for the establishment, application, and approval of sandboxes, facilitating the safe introduction of innovative financial technologies.<sup>141</sup> These initiatives aim to further enhance the robustness of the financial ecosystem by allowing more comprehensive testing and integration of new technologies.<sup>142</sup> This scale-up is expected to attract a broader range of fintech innovations, fostering a more inclusive financial environment. The focus will be on expanding the capabilities of these sandboxes to cover more extensive and complex financial operations, thus providing a safer and more reliable DFS landscape for consumers.<sup>143</sup>

## Integration with Blockchain

Blockchain technology is set to play a crucial role in the evolution of Uganda's digital financial services. The integration of blockchain within regulatory sandboxes is expected to increase transaction security and transparency significantly.<sup>144</sup> This technology offers immutable record-keeping and enhanced security features that are crucial for the

<sup>139</sup> Miscellaneous Cause No. 109 of 2022 [2023] UGHCCD 113 (24 April 2023).

<sup>140</sup> World Bank (n 27).

<sup>141</sup> National Payment Systems Act (2020), Cap. 59, Sections 16-18.

<sup>142</sup> Bank of Uganda, 'National Financial Inclusion Strategy 2023-2028' (2023) <[https://bou.or.ug/bouwebsite/bouwebsitecontent/FinancialInclusion/2023/Signed\\_2023\\_2028\\_National-Financial-Inclusion-Strategy\\_.pdf](https://bou.or.ug/bouwebsite/bouwebsitecontent/FinancialInclusion/2023/Signed_2023_2028_National-Financial-Inclusion-Strategy_.pdf)> accessed 30 April 2024; OECD, 'The Role of Sandboxes in Promoting Flexibility and Innovation in the Digital Age' (2020) <<https://cdn.sanity.io/files/hr4v9eo1/production/8b7b30586373ff16ac1c52283c6142375a998eff.pdf>> accessed 30 April 2024.

<sup>143</sup> African Development Bank Group, Understanding the Importance of Regulatory Sandbox Environments and Encouraging Their Adoption (2022) <<https://cdn.sanity.io/files/hr4v9eo1/production/3f899a31581b2cc704a44ae96a2c736288699488.pdf>> accessed 30 April 2024.

<sup>144</sup> Seunghwan Kim and others (n 25).

integrity of financial transactions.<sup>145</sup> By incorporating blockchain, Uganda can address some of the persistent challenges such as fraud and cyber threats, thereby increasing consumer confidence in digital platforms.<sup>146</sup>

### Increased public awareness

To maximise the benefits of regulatory sandboxes and blockchain integration, there is a planned increase in public awareness campaigns. Similarly, the challenges to ensure active and secure use of mobile money accounts are evident in the findings which discuss the need for improved financial education and reduced transaction fees to promote active use among micro-entrepreneurs.<sup>147</sup> These campaigns will inform customers about new financial technology safety and digital economic benefits. To build confidence and promote new financial services, awareness is the key. Uganda can strengthen consumer protection and participation in digital financial services by informing consumers. These prospects seek to strengthen financial services operations and prioritise customer protection in Uganda's changing financial landscape.

### 10.3 Operational Challenges in Implementing Regulatory Sandboxes

Preventing fraud and financial crimes in Uganda's digital financial ecosystem requires regulatory sandboxes. Sandboxes allow fintech firms to test antifraud methods in a regulated setting, validating their effectiveness in reducing financial crime fraud. The law requires financial institutions to perform risk assessments and implement robust measures to counteract risks related to money laundering and terrorist financing when introducing new technologies.<sup>148</sup> Additionally, court cases such as *Aida Atiku v Centenary Rural Development Bank Limited* underscore the importance of stringent regulatory oversight to prevent unauthorised transactions, highlighting the role of sandboxes in refining security measures before full deployment.<sup>149</sup>

These measures collectively demonstrate the significant impact of regulatory sandboxes on improving consumer safety and ensuring market stability within Uganda's digital financial services. By fostering secure and user-friendly environments, sandboxes not only protect consumers, but also support the resilience and integrity of the broader financial market.

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<sup>145</sup> Electronic Transactions Act (2011), Cap.99 (Uganda), Section 5 and 7.

<sup>146</sup> Agnieszka Butor-Keler and Michał Polasik, 'The Role of Regulatory Sandboxes in the Development of Innovations on the Financial Services Market: The Case of the United Kingdom' (2020) 19(4) *Ekonomia i Prawo*. Economics and Law 621 <<http://www.economicsandlaw.pl>> accessed 30 April 2024.

<sup>147</sup> Hamdan, Lehmann-Uchner and Menkhoff (n 31).

<sup>148</sup> Anti-Money Laundering Act (2013), Cap 118 (Uganda), Section 6A and 9.

<sup>149</sup> Civil Suit No. 0754 of 2020.



## 11 Conclusion

Comparing Uganda's mobile money regulatory sandboxes with Kenya and the UK shows similarities and differences. Ugandan regulatory sandboxes have helped test financial innovations while minimising risks from overseas ICT service providers and economic operators. These sandboxes enforce strict data security measures to protect consumers and comply with regional and international frameworks, but Uganda's regulatory framework is hampered by the lack of clear operational guidelines on cross-border testing. Kenya and the UK have more developed sandboxes.

The analysis shows that Uganda's regulatory sandboxes need policy changes to expand. Uganda should implement an integrated approach to expedite cross-border testing and link its regulatory system with international norms, such as Kenya's comprehensive Central Bank-supervised regulatory guidelines. Stronger engagement between regulators and fintech innovators, like the UK's sandbox model, might combine innovation with consumer protection and data security, addressing foreign economic operator risks.

A future study should broaden Uganda's regulatory sandboxes and examine how blockchain and artificial intelligence (AI) could reduce digital financial hazards. The effectiveness of sandboxes in promoting financial inclusion, especially among underserved populations, should be studied, as should their adaptability to changing technological challenges, to keep Uganda's framework responsive to the dynamic landscape of digital financial services.