ABCD TECHNOLOGIES AND THE NEW FINTECH–GOVTECH PARADIGM: LESSONS FROM UKRAINE'S DIGITAL RESILIENCE UNDER SYSTEMIC SHOCK

Liana Moskalyk[1]

DOI: https://doi.org/10.30525/978-9934-26-672-0-40

Despite severe wartime damage to its physical infrastructure, Ukraine succeeded in building a resilient digital framework that ensured governance, economic continuity, and financial stability amid systemic shock. This crisis-driven transformation turned an existential threat into a catalyst for institutional and technological innovation [1]. The Ukrainian case illustrates how an integrated digital financial infrastructure – combining FinTech and state e-governance – generated a synergistic effect that reduced financial fragmentation and fostered inclusion. Financial inclusion thus emerged not as a temporary response, but as a structural outcome of comprehensive digitalization.

The war in Ukraine caused major disruptions: destruction of physical banking infrastructure, mass displacement of people, loss of documents, and shortages of cash. Under these conditions, traditional financial systems could not operate in the usual way. Digital infrastructure became essential. Remote onboarding, digital identity, mobile banking, and online public services allowed people to continue accessing financial services even when physical access was impossible. In this context, financial inclusion was not simply an emergency policy instrument. Instead, it developed as an outcome of rapid digitalization and FinTech expansion [2]. As digital platforms became the main channel for payments, social transfers, and communication with the state, access to financial services expanded organically. When digital systems scaled, inclusion expanded with them.

The resilience of Ukraine's FinTech ecosystem was reinforced by the deployment of **ABCD technologies** – Artificial Intelligence, Blockchain, Cloud Computing, and Big Data analytics. These tools enhanced operational continuity, real-time monitoring, transparency, and trust in the financial system. Cloud infrastructure ensured operational continuity by migrating critical banking systems to secure external servers, reducing dependence on vulnerable physical data centers. Big Data tools enabled real-time monitoring of transactions, liquidity flows, and state transfers, improving transparency and coordination. Distributed ledger and secure digital verification technologies

[1] Ivan Franko National University of Lviv, Ukraine

strengthened trust, traceability, and protection against manipulation in digital payments and public finance [3]. Artificial Intelligence played a pivotal role, in supporting both institutional stability and user access.

Within this technological architecture, artificial intelligence emerged as the key enabling technology. AI-supported systems enhanced digital identity verification, fraud detection, cybersecurity monitoring, automated credit scoring, and transaction analysis. These capabilities increased speed, efficiency, and security across financial operations [3]. Importantly, AI enabled financial institutions to operate amid extreme uncertainty by adapting to rapidly changing risk patterns and detecting anomalies in real time. In this way, AI strengthened both supply-side stability (banks, payments, liquidity management) and demand-side access (remote users, displaced persons, vulnerable groups), making it the central technological driver of inclusive and resilient FinTech development during wartime.

The integration between the state digital platform Diia and PrivatBank exemplifies a unified **GovTech – FinTech model** that ensured uninterrupted financial transactions, entrepreneurship support, and social assistance. This collaboration demonstrated how digital ecosystems can maintain economic activity amid physical and institutional disruption.

A central example of this integration is the cooperation between the state digital platform Diia and the state-owned banking giant PrivatBank. Diia provides digital identity and access to public services. PrivatBank ensures continuity of payments, social transfers, and donations. Together, they demonstrate how FinTech and GovTech can form a unified digital ecosystem. This synergy has had a particularly strong impact on entrepreneurs and business activity. Through Diia, individuals can register as sole proprietors online, obtain digital licenses, use electronic signatures, and access state programs without physical presence [4]. At the same time, integration with PrivatBank enables instant remote account opening, digital onboarding via BankID, online loan applications, and access to government-backed credit programs. Payment infrastructure (Privat24, POS networks, digital acquiring) ensures liquidity and transaction continuity even during blackouts or displacement. The result is a streamlined, end-to-end digital business environment in which company registration, banking services, taxation, and state support are interconnected within one coordinated system. This integration reduces entry barriers, lowers transaction costs, and sustains entrepreneurial activity despite wartime disruption, thereby supporting economic continuity even amid severe financial and infrastructural fragmentation.

The Ukrainian case illustrates a broader concept: financial inclusion can emerge as a systemic result of an integrated digital infrastructure. When digital identity, mobile finance, AI analytics, and public platforms are interconnected,

financial access becomes embedded in the system itself. Crisis accelerated this integration, but its effects may continue beyond wartime.

The further discussions and studies within the field should examine the future challenges and opportunities that arise from this transformation, focusing on the balance between centralized digital platforms and decentralization / local governance; the potential development of a central bank digital currency (CBDC); and Ukraine's evolving position within the global FinTech landscape. The Ukrainian experience offers valuable insights for other countries seeking to build resilient, inclusive, and AI-enabled financial systems, in which integrated FinTech ecosystems can support both economic survival during crises and long-term institutional development.

References:

1. Ingram, G., & Vora, P. (2024). Ukraine: Digital resilience in a time of war. https://www.brookings.edu/wp-content/uploads/2024/01/Digital-resilience-in-a-time-of-war-Final.pdf

2. Schilirò, D. (2025). Fintech, innovation ecosystems, and financial inclusion Munich Personal RePEc Archive. Uni-Muenchen.de. https://mpra.ub.uni-muenchen.de/127045/1/MPRA_paper_127045.pdf

3. Shakil, M., Ali, M., Illahi, T., & Ahmed, F. (2025). FinTech 5.0 and the future of global finance: Harnessing artificial intelligence, blockchain, and big data to build inclusive, sustainable, and resilient financial ecosystems. Inverge Journal of Social Sciences. https://invergejournals.com/index.php/ijss/article/view/179/355

4. Mamediieva G. (2025). "Ukraine's Digital Transformation: Innovation for Resilience." Harvard.edu, Apr. 2025, www.hks.harvard.edu/centers/cid/voices/ukraines-digital-transformation-innovation-resilience