


Chapter 12

Risks, Challenges, and Ethical Considerations in Tokenized Systems: Supplementary Illustrative Indigenous Case Study

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ABSTRACT

Blockchain technology has disrupted traditional business models through tokenization. Tokenized systems offer opportunities while presenting risks and challenges for global investors. This chapter critically examines the risks, challenges, and ethical considerations in tokenized systems. It analyzes risks, such as financial, liquidity, market, operational, fraud, and cybersecurity risks. Further, it addresses constraints related to blockchain networks, adoption, scalability, sustainability, and governance,

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including the integration of artificial intelligence (AI). The chapter also evaluates ethical concerns related to tokenization, such as algorithmic bias, data privacy, accountability, and sustainability. To address these critical issues, it proposes a conceptual framework and concludes with policy insights and an outlook to guide the ethical and responsible adoption of tokenized systems globally and within indigenized contexts. This discussion is further illustrated through an Indigenous-focused case study, framed by the lens of “two-eyed seeing”, as presented in Annex Chapter 12.

1. INTRODUCTION

Blockchain technology reshaped the global economic and financial landscape and disrupted businesses through tokenization (Stability Board, 2024). As shown in Figure 1, tokenized systems provide several opportunities and challenges to global investors. Recently, there has been a wide acceptance of tokenized systems across both conventional and Islamic markets (Mousavi et al., 2025), in terms of fractionalization and partial ownership of high-value assets like real estate. The potential of blockchain technology to provide value in achieving various social impacts has been widely discussed. The benefits range from assisting vulnerable populations to global supply chains (Barclay, I., Cooper, M., Hackel, J., & Perrin, P., 2022).

While tokenized systems are potentially transformative for conventional and Islamic financial markets, there are numerous challenges and risks associated with their introduction and full utilization (Financial Stability Board, 2024). There are many barriers to adoption, including a lack of regulation, fast-paced changes in technology, and overall organizational resistance. In addition, technological vulnerability is demonstrated by cyberattacks and theft (Chainalysis 2025; La Morgia et al. 2023), while scalability issues currently restrict wide-scale application (Deval et al., 2024; Li et al., 2024). Proof of ownership of tokenized assets is a problem, especially where there is an existing system that is legally accepted. Questions of market manipulation and volatility of the assets prevent acceptance as well (Briola et al., 2023; Liu et al., 2023). There are other concerns, including governance, environmental sustainability, indigenization, and integration of artificial intelligence (Mulligan, et al., 2024; Upadhyay, 2020).

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