Chapter 4
Legal and Regulatory Framework for Digital Technologies and Risk Management in the Digital Age

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ABSTRACT

This chapter explores the regulatory challenges and opportunities presented by digital technologies in the context of human rights and risk management. As digital systems increasingly influence critical aspects of daily life, existing legal frameworks often fall short of addressing emerging threats such as algorithmic bias, surveillance, data exploitation, and digital exclusion. The chapter traces the historical evolution of digital regulation, examines global governance trends, and advocates for a human rights-based approach grounded in transparency, accountability, and

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equity. It emphasizes the need for inclusive, adaptive, and risk-aware frameworks that protect fundamental freedoms while fostering innovation. Through the lens of digital justice, it calls for multi-stakeholder cooperation to ensure that digital transformation enhances, rather than undermines, human dignity and democratic values.

INTRODUCTION

For the past few years, the digital revolution has transformed the face of contemporary civilization. From communication and business to politics and health, digital technologies have permeated most aspects of society, reshaping the way people connect to each other, the activities of institutions and the power of the state. This transformation has been marked by accelerating rates of data generation, complex algorithmic analysis and the rise of platforms that govern large portion of human life. Although this digital age has presented unique opportunities for innovation, economic growth and social interaction, it has also brought with it unprecedented challenges and risks, the regulation of which has become a matter of urgent concern.

In the era of digital, there is a schism between promise and peril. Innovations ranging from artificial intelligence (AI), machine learning, big data analytics, blockchain and the Internet of Things (IoT) stand to boost productivity, automate work, support decision-making and level up access to information (Bamberger, 2009). But the same technologies can also reinforce inequalities, entrench discrimination, spur surveillance, disinformation and manipulation. As digital technology interpenetrates key infrastructures, including the banking system, health care, education, law enforcement. The stakes in regulatory failure grow dramatically, impacting not only individual rights, but also public safety and the ability of democratic governance to flourish and to protect the security and well-being of its citizenry.

Digitalisation has outpaced the development of a strong legal and policy environment that is needed to guarantee human rights and accountability. Existing regulations are out of date, piecemeal or non-existent. The law as it currently exists, written first and foremost for an analog era, does not provide the kind of flexibility and nuance required to address contemporary and emerging forms of harm including algorithmic bias, data breaches, platform monopolisation and online harassment. In addition, digital platforms are borderless and worldwide, which renders monitoring of national protections difficult and entails the need to roll out international cooperation.

Meanwhile the growing might of private technology companies complicated the regulatory landscape. Companies like Google, Facebook and Amazona do use the flow of data and speech to persuade and manipulate, and these powerful actors do control digital infrastructure. These actors frequently operate in the interstices of conventional governance structures, raising the spectre of unchecked corporate